

SKIN DIVER

MAGAZINE

50c
December
1961
ACME

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HUGH DOWNS

CANADIAN FEATURE

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EXPLORING BAJA

**Christ
of the
Abysses**

John Steel




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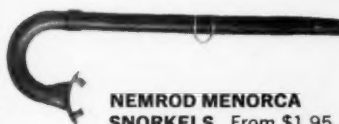
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CHRONOMASTER

BY CROTON NIVADA GRENCHE

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Reader's Ripples



... I am very honored that you chose me to be "Miss International Beach Temptress." Your phone call was the biggest surprise I've ever had. I hope the readers of Skin Diver Magazine will approve of your choice.

Nancy Lynn
Fort Worth, Texas

They do, and we have the stack of mail to prove it.

... I finally finished "Operation Bottle-neck." And the only way I could have possibly gotten it done was to be snowed in, which I am. Our part of the country has just been hit with our third big storm of the year with the snow from the previous two still frozen on the ground. The temperature around here right now is about 10 degrees above zero. A water main in the street has cracked open and the town has shut off our water. My Volkswagen is under a twelve foot drift with a six foot drift covering the remaining four feet of driveway. Our hotwater heating system is about to go off because of no water left in the system. Our club has its monthly tournament tomorrow and the only road to the area has been closed. The lights just flickered on and off so I may have to finish this by candle-light. But aside from these little disturbances everything is great up our way.

I'm sending this envelope out first thing in the morning. It will be taken from here to Boston by dog-sled. Then it will be loaded aboard a horse-drawn sleigh for the trip to New York. By the time the train reaches Chicago we hope it can make one of the early flights next month to that sickly sunny California where trucks are utilized to transport oranges rather than push plows.

Jerry Comeau
Stoneham 80, Massachusetts

Slightly sun-faded from its trip across town in an open convertible, the story arrived and can be seen on page 38.

... Some of our club members (Oregon Skin Divers) have tried to dry fish eyes and make a string of beads. Most have had much trouble doing this. Someone mentioned that they read something along these lines in the past in your magazine. Could you please tell me the issue this article could have been published in? If you have no information available on this topic could you please refer me to someplace where I could locate it? Perhaps your readers could help me. I have enjoyed your magazine very much and wish to extend to you and your readers an invitation to some wonderful diving here in the Pacific Northwest.

Rick Regula
Oregon Skin Divers
Portland, Oregon

We don't recall running such an article but perhaps some readers can help you.

... Many times my friends and I dive in oil and grease filled waters. But we are always faced with the problem of many hours of cleaning our gear. Our regulators and suits are a disgrace and we were hoping you could tell us what we could coat or soak these things in so they would come clean.

Ronald Bond
Baltimore 30, Md.

About the only suggestion we have is to soak your gear in a bathtub full of soapy water before rinsing it in clean, fresh water.

... As a result of a letter I placed in "Skin Diver Magazine," several issues back, I have been able to form a club consisting of eight very active divers. We all have one big thing in common; we like to be in the water and not in the clubroom. In a few short sessions we have elected club officers, and selected a name. Our club name is the "Aqua-Trons." We dive each and every week and we are especially interested in search and salvage; and have employed various pieces of electronic equipment in our dives. Membership is still open in our club if any divers in the Chicago area are interested. However, unless you are "active" you need not apply.

Hal Wolfe
AV-36406
Chicago, Illinois

... I have a problem. I wrote to you a month or so ago asking for some back issues. At that time you said that the January 1961 issue of Skin Diver was gone. I have tried all the local sources but in vain. Could there be any way of advertising for a copy or any other way of obtaining one. Any information would be most helpful. Thank you.

Bruce Allard
12 Ladd Street
Watertown 72, Massachusetts

Are there any readers who can help Mr. Allard?

... I would like to communicate with someone in Long Beach, or the Los Angeles area that is interested in treasure hunting, that has some time off, and would pay half of the expense. I have a 21 foot Chris Craft, all my diving gear, and a lot of information.

Kirby Johnson
3352 Knoxville Ave.
Long Beach Calif.

... I am interested in learning the names and locations of lakes that are clear enough for diving in the following states: North Carolina, South Carolina, Virginia, Kentucky, Tennessee and Georgia.

Rick M. Mitchell
2509 Kenmore Avenue
Charlotte, N.C.

(Continued on Page 6)



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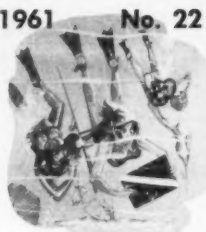


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cover

Standing serenely in a quiet bay off the coast of Italy is the "Christ of the Abysses." Story on Page 32.



DEVOTED TO THE UNDERWATER WORLD



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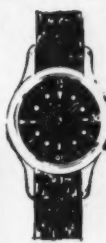
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Reader's Ripples

(Continued from Page 2)

... In Olney's Overseas Observations you have mentioned "Australian Skin Diver's Magazine," "Scottish Diver," and "Undercurrent, Canada." Can you send me the addresses of these magazines so that I might subscribe to them?

Samuel O. Raymond
Watertown, Mass.

Australian Skin Divers Magazine, Box 1192, GPO, Sydney, Australia. Scottish Diver, 38 Kinmount Ave., Glasgow, Scotland. Unfortunately, Undercurrent is no longer being received in this office and we do not have their address on file.

... I would like very much to see more articles on Navy UDT and EOD, of which I am a proud member.

Lewis T. Ross
FPO, New York

See the lead story in this issue.

... I would like some information on where to find the best spearfishing in the Mediterranean Sea.

Bill Roth
APO, New York

For information on specific spots, we suggest you contact the Club Mediterranee, Rue de la Bourse, Paris, France.

... I would like to buy a sheet of one eighth inch neoprene about four feet square. Where should I look for it?

Lamar Fisher
Elyria, Ohio

Your nearest dive shop or, if that doesn't work, write to some of the suit manufacturers in SDM.

... On page 6 (November SDM) you fail to list Oregon State University as a place to study Oceanography in spite of the fact that they launched the first original design oceanographic vessel and have a very fine graduate program.

Bill Van Arsdell
Portland, Oregon

... I was shocked to read in SDM that "Sea Hunt" is no longer being produced for TV. I wish, here and now, as an avid devotee of skin diving, to make a loud protest against this program being taken off the air. Any attempt on the part of the broadcasters to do so shows a lack of interest in one of the world's most important resources. I seriously hope that more sportsmen will protest.

Edmund Dahlstrom
Waterbury, Conn.

Many are protesting, though "Sea Hunt" is still on the air with original stories. It is no longer being PRODUCED, but enough shows were made ahead to last for awhile. Frankly, many readers would like to see them start shooting again, this time an hour long show.

... I am looking for a girl in the Chicago area to dive with.

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1753 N. Latrobe
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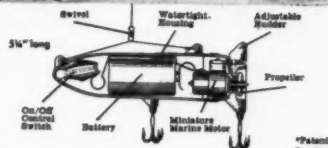
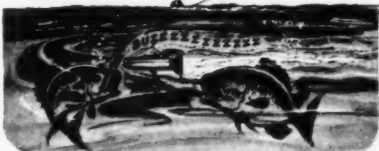
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... The photo above shows an ancient, 500 pound anchor, estimated to have been lost in Lake Superior over 50 years ago. We came across it in about 40 feet of water. The bottom was full of rocks that the anchor got caught on, probably breaking the chain. It was found by scuba divers Jim Karasek and myself.

Bill Olson, Jr.
Meadowlands, Minn.

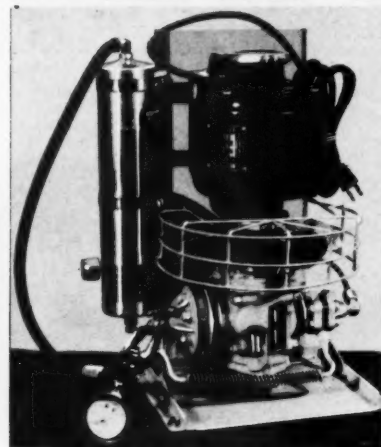


... The photo above shows the Vancouver Gillmen, B.C. Electric Eels, and friends enjoying some of the excellent spearfishing in the Gulf Islands and surrounding waters. On a recent outing, two six foot wolf eels were speared. The Vancouver Gillmen Club holds the record for largest ling cod, a 58½ pounder. Several other large cod in the 40-50 pound range have been taken. Divers taking part in the above spearfishing were Ron Johnson, Steve Hamilton, Laurie Weldon, Jack Jonas, Bernie Morasky, Brydon Potts, Don Stewart and Steve McPherson. Don Stewart
Vancouver, B.C.

... Would some club be interested in exchange of information regarding safety rules, competitions and point score systems?
Robert Scott
30 Burgess St.
Sydney, Australia

(Continued on Page 8)

NEW!



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Reader's Ripples

(Continued from Page 7)

... We do not have a recompression chamber anywhere nearby but we do have an iron lung at the local hospital. Could you please tell me how an iron lung is used in connection with divers and how it is used as a recompression chamber and if it can be used to treat bends.

Gene Hampton
Unecda, West Va.

An iron lung is not used in connection with divers unless they have a breathing problem, which is the primary use of the device. It cannot be used as a recompression chamber and is not used to treat the bends since a high pressure cannot be built up in the lung with its relatively fragile rubber collar. Then too, the patient in a lung has his head outside where in treatment for bends the whole body, including the head, is under great pressure.

... I own a set of Italian Spiro Sub tanks (60 cu. ft. each) and a Spiro Sub Mistral Regulator. I would like to know where I can obtain parts such as washers, filters, etc. Or where can I get the regulator overhauled nearby.

Paul McKenna
Boston, Mass.

Perhaps you can be directed to a local repair shop by writing the Cressi Company, Piazza Beata Frassinetti 3A, Genova, Qunito, Italy.

... I am entering the University of Washington this winter to study the field of Biological Oceanography. I have been diving about five years. Can you help me get in contact with some divers in the Seattle area?

Thomas A. Gornall
1015 9th Street
Lorain, Ohio

... I would like to know which is best... the single hose or double hose regulator.

Charles Martin
Hialeah, Fla.

As with the one and two stages of the above types, each is very good and each type has its place, depending on the individual diver and the proposed use.

... I have read "Diving For Gold" and in it there is mentioned a gold diving school in California called the 49ers. Do you have their address?

Peter Schmur
Syracuse, New York

For information on the different gold diving schools around the west, you might contact California Mining Journal, 1802 W. Cliff Dr., Santa Cruz, California.

... I have two questions. One, where do you get your material, from regular staff writers or articles sent in by readers? Two, what is the time and place of next year's instructor's course given by NAUI?

Eugene K. Wells
FPO, New York

One, both, and two, check the NAUI page in this issue.

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AUTHORITIES AGREE

"It has been shown that when present equipment is inflated underwater with carbon dioxide the buoyancy is far less than at the surface, and is generally inadequate for bringing the underwater swimmer to surface quickly."

"Life Preservers Underwater" (Special study) Whittier, R., Aug. 1960.



It is my considered opinion that NO person should enter the water for the purpose of scuba diving without first putting on an inflatable type life jacket. The U. S. Navy feels so strongly and is so convinced of the importance of this piece of equipment that their frogmen are not permitted to even enter a swimming pool without their life jackets on. We should all learn from the Navy's experience and make this yoke type life jacket an indispensable item of our diving gear.

"Medicine Under Pressure," Kiker, Walter R., M.D., Skin Diver Magazine, January 1961.

Dr. Kiker and I see eye-to-eye on most things, including reliable type of inflatable life jacket is part of a diver's essential gear.

"Comments From Laughlin," Laughlin, R. H., M.D., Skin Diver Magazine, April 1961.

Constructed of rubberized nylon, the VITA VEST will last as long as your regulator. Zipper front entry means no repeated belt adjustments. Short and compact, the VITA VEST does not interfere with any present day tank harness.

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OVER 173
AUTHORIZED
DEALERS

WRITE FOR
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Reader's Ripples

... I have just finished reading the October SDM, and it was your usual great job. First I would like to ask what we divers can do as a group to bring back such shows as "Sea-Hunt" and "Malibu Run." I think these two shows have done more for diving than we individually could do in quite a long time.

Michael Lee
16 Winter Lane
Framingham, Mass.

Write to ZIV-United Artists TV, 7324 Santa Monica Blvd., Los Angeles 46, Calif. and tell them you want diving shows on TV.

... Our club has instituted a new program as follows: Our dues are a dollar a month, or twelve dollars a year. If a member pays his dues a year in advance we will give him a year's free subscription to your magazine. We feel that this will help us even at a loss of four dollars and the magazine will help the person getting it. So if you would like to print this information maybe some other clubs will adopt this plan. I feel assured the plan will meet with your approval and co-operation. Now some of our members already subscribe to Skin Diver. Can we be assured of their renewal if they pay their dues in advance and we sent the subscription fee? I would like to hear your comments on our plan.

Francis D. Ford Sr.
3 W. Fourth Ave.
Baltimore 25, Md.

Definitely yes. Every subscription received is always checked in our files and either extended or entered, as the case may be.

... Can you suggest some good underwater photographer (movie) who might like to go along on our forthcoming expedition. I think the whole thing, before its over, will make a real good "adventure" for TV and so on.

L. Copeman
602 West Bellevue St.
Leslie, Michigan

... Since the fatal accident of Charles Raymond, which happened in Torch Lake on Sept. 17, 1961, a benefit fund has been established for his widow, Mrs. Raymond, and her four children. Donations to this fund will be greatly appreciated since no insurance will be paid until the body is recovered.

We will appreciate any donations, whether from the club as a whole, or individual donations. The establishment of this fund has been received with exceptional warmth and the hearty approval of clubs who have already so generously donated.

Please make all checks payable to the Charles Raymond Fund and forward them to the above address.

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Dearborn, Mich.

(Continued on Page 10)

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Reader's Ripples

(Continued from Page 9)

... Once again our club is calling on your magazine for advice. Several club members feel it is safe to fill a standard 71 cu. ft. tank to 2500 P.S.I. The working pressure on the tanks are 2250 P.S.I. There are also some club members who are using converted fire bottles. These fire bottles have been tested, and have high pressure reducing bushings. However, once again, these tanks are being filled to between 200 and 400 P.S.I., higher than the pressure stamped on the tanks. Do you feel this is a safe practice? We would appreciate your advice very much.

A2C Kenneth A. Olkon
Turner Scuba Divers
Turner Air Force Base, Ga.

We do not recommend over filling tanks or the use of anything other than standard compressed air tanks for diving.

... We of Scuba Maritime Limited, would like to take this time to congratulate your fine magazine in its efforts in publishing a monthly issue which is greatly informative and entertaining in its articles.

We ourselves are the largest wholesale and retail outlet that is devoted exclusively to diving gear in this part of eastern Canada. For the past several years there have been many types of divers in this area and being a store of this type we have great hopes of providing the diver with many types of diving gear and accessories. We have all the well known products such as Dacor, Healthways, Voit, U.S. Divers, Sea Tow, etc. This part of the country also has many tourist attractions to any one wishing to come to this area. Many people from your country have approached myself and other divers as to where they could get equipment. Until this year there has not been a place where they could be supplied, now that situation has been remedied. There are numerous places in which a diver or sportsman can enjoy themselves along our coast, there are over five hundred wrecks, ancient and modern along our coast plus many types of fish such as the Bluefin Tuna, Swordfish, Sharks, Halibut, Cod, etc. Also the waters here on the average have very good visibility sometimes up to twenty feet depending on the area you are in, which is very good for waters so far north, so you can well understand why this part of the country is attracted to people from all over.

I would like to pass on some news to you regarding diving clubs in this area. The twin cities of Halifax and Dartmouth have four, they are the Halifax Free Divers, the Bluefin Divers Inc., Tiger Sharks and the Dartmouth Dolphins. These clubs are active all the year round and competition is very keen and many people swell their ranks each year. If at any time there are divers coming from your area and other points over the country we would be only too glad to help and direct them to any of the clubs in this area.

Philip F. Eisnor
Scuba Maritime Limited
215 Agricola Street
Halifax, Nova Scotia

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Journal of the British Sub-Aqua Club
Bi-Monthly, covers all aspects of the sport of underwater swimming, spearfishing techniques, safety, equipment, photography, plus reports from BSAC Branches.

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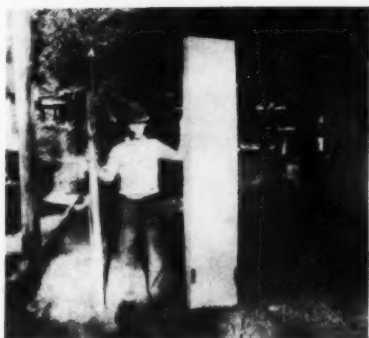
**Mondo
sommerso**

Via Po No. 10
Rome, Italy

Full of color and exciting underwater adventure. Published in Italian.



Reader's Ripples



... Many thanks for your article about the addict gun by Ron Church.

I built my gun strictly from Ron's article, except enlarged it a little to shoot giant sea bass with. The gun is seven feet long with five elastics, and really shoots fine.

So now I've got my float and I'm going fishing.

Andy Alfonso, Treasurer
Mississippi Council of Skin Diving
Gulfport, Mississippi

... Some issues ago in a column titled Oceanography it was mentioned that very few colleges and universities give courses that would lead to a career in oceanography or allied marine sciences. Could you tell me which universities do give such courses?

New York, N. Y.
Nixon Griffiths

See November SDM, page 6

... During the summer of 1962-1963, probably during the month of July, I and four other companions are planning on chartering a boat in Piraeus, Greece, and sailing throughout the southern Adriatic Islands.

I imagine we will be in the southern Adriatic Islands over a period of approximately two weeks, and at this moment I am trying to compile information as to the best diving locations, wrecks, spearfishing grounds, areas for photography, etc. I would be most appreciative if anyone could pass on information to me as to diving in the southern Adriatic or the name and address of someone I might be able to contact in Greece for further information.

In return for information from a Greek diver or a Greek Diving Club, I will be most happy to furnish information of my own to them concerning diving in the eastern waters of the United States. I have dived extensively from Long Island Sound through the Bahamas and Keys of Florida and feel that I am fairly qualified in answering questions concerning this diving area. Thus anyone with any information, would you please contact me.

Anthony M. Small
Western Printing and
Lithographing Co.
North Road
Poughkeepsie, New York

... I have heard that the North Shore of Long Island is a productive area and would like to dive there. Would somebody in that area please contact me?

Tom Cantwell
231 N. Hawthorne St.
Massapequa, Long Island

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OLNEY'S OVERSEAS OBSERVATIONS

Points of interest noted in foreign diving and fishing publications by Ross K. Olney, Associate Editor.

A thirteen foot monster with three humps and a python's head was reported in Bassenthwaite Lake, England, recently. Investigating skin divers found six golf balls and a fishing rod. (*New York Times*)



Everybody wants to get in the act. Photo above shows Lavvan, the diving dog from Stockholm, Sweden. The dog, according to owner Sven Nahlin, can now stay down for a period of twenty minutes and can move about under water faster than most human divers. Now, how you gonna keep 'em down at the pound . . . after they've seen . . . Oh, forget it. (*Mondo Sommerso—Italy*)

The poor eyesight of two aged fishermen almost resulted in the death of an 18 year old skin diver recently in Colon, Canal Zone. The two fishermen were hunting for turtles near the mouth of the Cativa river when the older one sighted what he thought was a testulinate marine reptile. Without a second look, he started hacking away with a huge machete, the other quickly joining in.

"Kill 'em . . . Kill 'em . . ." the older one shouted.

The "turtle" turned out to be skin diver Luis Herrera who, unfortunately, was just snorkeling by. When the fishermen realized their mistake, they rushed Herrera to the hospital with multiple cuts and gashes. He will recover and, meanwhile, the two fishermen are under orders of the Municipal Attorney. (*Panama American*)

"The Terrors of the Coral Reefs" in Northern Australia are not sharks . . . nor are they octopi or men-of-war or barracuda. No, they are monster Groupers equipped with a mouth full of razor sharp teeth. Forewarned by a series of reconnaissance attacks, divers in Australia can usually fend off the shark, but the grouper attacks quickly and silently. It stalks its prey relentlessly until it is trapped . . . and has been the cause of growing concern among divers "down under." (*San Francisco Chronicle*)

A free lance professional diver, John Silver, searching for scraps of cable on the sea floor, snipped through what looked like a profitable length of wire. It turned out to be the telephone line between mainland Britain and the Isle of Wight. Silver helped telephone engineers in the hasty repair job. (*New York Times*)

Edwin Link, an American millionaire whose hobby is archaeology, was recently convicted by a Greek court of conducting underwater research without a permit. Link, inventor of the famous Link Trainer, was exploring the sea bottom off the coast of Loutraki, Greece. He was fined \$300 and given a six months sentence, with the option of paying off his sentence at \$6.66 a day, which he promptly did. (*New York Herald Tribune*)

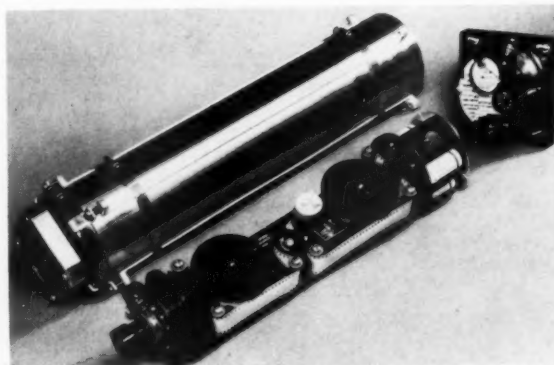
NEW DEEP SEA CAMERA DESIGNED FOR FRENCH BATHYSCAPHE



Harold E. Edgerton, right, explains to MIT student Curtiss Wiler the deep sea cameras recently finished by Edgerton, Germeshausen and Grier, Inc., for the new French Bathyscaphe Archimede. The cameras are equipped with Hopkins f 4.5 corrected lenses for underwater use, and have a 500 picture capacity. There is a "Data Chamber" which is photographed on each frame with depth, time and other information.

The assembly was tested for 20,000 psi so that it could be used in the deepest ocean.

Edgerton is holding the push button which is located in the sphere of the Archimede. The operator pushes the button when he wishes to photograph a subject.



Illustrated is a disassembled view of the new deep sea camera designed for 37,000 foot depths, the deepest known in the ocean. The camera was built by Edgerton, Germeshausen and Grier, Inc., and follows the original designed by Prof. Harold E. Edgerton of MIT. Notice the data panel on the right side of the photo. This panel gives pressure, time of the photograph and other data and is photographed on the film with the subject.



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ORDERING INSTRUCTIONS

By R. D. SCHROTH

TO ERR

A SMALL fishing boat chugged slowly through the Gulf of Mexico just off the coast of Florida. As the crew prepared to haul in the final catch of the day, a badly corroded metal object was seen nestling among the fish. On closer examination, identification of the object wasn't difficult. It was a large demolition bomb. The bomb was carefully eased over the side and only the nerves of the fishermen were the worse for the experience.

This boat had been sailing in waters which had once served as a World War II bombing range and the ocean floor was liberally sprinkled with dud bombs which had failed to explode during intensive war time training.

On his return to port the captain of the fishing boat notified local authorities of the incident. Soon one of the hardest working and most mobile units of the U. S. Navy went to work. A team of divers from Explosive Ordnance Disposal Unit-2 of the Atlantic Fleet Mine Force was ordered to the area from its headquarters in Charleston, S. C.

A team of eight divers from this unit pitched tents and established a well supplied camp on a remote spot of Florida coastline about 50 miles north of Tampa. For five long months skin divers worked in 18 to 25 feet of water locating and destroying these potentially lethal bombs.

Marking the area in small squares, they made a systematic, foot by foot search of the ocean floor. When a bomb was found it was marked with a float and at the end of each day the bombs were exploded by small charges of explosives and time fuses. This painstaking, dangerous task continued until the team was satisfied that the area was completely clear of the old bombs.

All in a day's work for the specialists from Explosive Ordnance Disposal Unit-2.

The Navy's Explosive Ordnance Disposal (EOD) men are undisputedly the nation's top experts in their field. Rigorous training and constant application of it has developed their ability and efficiency to a fine edge.

Mobility and "know-how" are prime factors in the successful operation of such a unit. When they are needed it is usually on a "need immediately" basis. One diver recalls the day he came to work carrying his lunch and didn't get home again for 12 days. "On top of that," he added, "Sombdy ate my lunch while I was gone."

The need for such mobility is easily seen when we look at the area of operation. The Navy has but two EOD units and the distance and scope of their responsibility is staggering. EODU-2, with headquarters at the Charleston, S. C. Naval Base is responsible for the area from the Rocky Mountains east to the Atlantic Ocean with all rivers and lakes included. Then across the Atlantic to Europe and the Middle East. The sister unit, EODU-1 with head-

quarters in Hawaii, is responsible for the other half of the globe.

These two units are the outgrowth of the old Navy Bomb and Mine Disposal Squadrons of World War II. While they were established with the primary object of mine disposal this is but a small area of their operations. These units are qualified to disarm and render safe a long list of explosive ordnance ranging from rusty Civil War cannon balls and projectiles to nuclear weapons. This area also includes all the known ordnance devices of foreign nations.

Diving, while secondary to the primary mission of the unit, takes up a major portion of the time. At times the teams have dived to recover drowned bodies or searched for downed aircraft. They make searches and inspections of ship hulls and they have even recovered a large safe and burglary tools from a Georgia river bottom for evidence.

Made up entirely of volunteers, EODU-2 has grown from a complement of 25 men in 1951 to its present size of 67 officers and enlisted men.

To become an EODU member, a prospective candidate must first undergo a rigid physical and psychological examination. His ability to learn must be above the average. After meeting these qualifications he is sent to underwater swimming school at Key West, Florida. There, after a rigorous program of physical training he is given



Official US Navy Photos by J. E. Oliver

IS FATAL

underwater swimming problems which would tax the physical abilities of a Tarzan but which become child's play when compared to what lies ahead at the Explosive Ordnance Disposal School.

The Navy's Ordnance Disposal School at Indian Head, Md., trains personnel from all branches of military service including personnel from NATO and SEATO nations. For U.S. Navy personnel there is a special course concerned with the underwater aspects of ordnance disposal which increases the length of the course by five months.

Classroom training takes up a large part of the time. There are courses in basic electricity, composition of explosives and field analysis of explosives. There are courses in bombs, land-mines, sea-mines, booby traps, fuses, torpedos, guided missiles, rockets, depth charges and even the disarming of aircraft ejection seats.

Along with these classes comes the study of diving physics. Formulas for compressor output and the reading of diving tables. Added to this area are the medical aspects of diving and a chance to study the bends, air embolism and other diving diseases. This in itself adds up to a brain twisting nine month curriculum.

But, all this is useless unless it can be applied under actual conditions. Some of these conditions can break a man. A Chief Petty Officer, now working with EODU-2 and who has been an instructor at the school, says, "It doesn't take long to separate the men from the boys. I have never seen all of an original class graduate. A num-

ber of things can cause drop outs. Some just can't take the information fast enough and some just get discouraged and quit."

During the practical application phase of training there is plenty of hard work. It is in this phase that many candidates quit the course. There is little doubt that certain types must be failed out or dropped from the school. There is no margin for error in this work. Just one error can be fatal.

Some students have been known to have latent claustrophobia. One diver said, "A 'clausty' will show up now and then. Put them in a standard deep sea diving rig with the big helmet and breast plate and it comes out. When you close that little round door on the helmet they'll go numb on you."

Some divers become terrified at the darkness beneath the surface. It has been described as a "darkness you can feel." The terror of this darkness has been known to completely immobilize men.

Others just lack the ability to stand up to such physical or mental exertion. A student is allowed to quit the school at any time without any prejudice whatever.

During diving training and the disposal of underwater explosives, small explosive charges are placed nearby. These charges go off when the diver makes a mistake. They are not dangerous but they are impressive. "Believe me," said one graduate officer, "It is a hell of an effective reminder of what would have happened had you been working on a live mine."

All work in the field is not underwater. A field problem in recovering a bomb which has buried itself about 30 feet in the ground can be sheer torture. For some reason it seems to rain a lot on the day of these problems. The job of recovering a buried bomb requires a short course in mining engineering. The walls of the hole you are digging must be shored up and the bomb must be located in the shortest possible time. This is done by determining the angle of bomb impact and the size of the impact hole. The rest is dig, dig, dig . . . and hope that your computations are correct. You aren't going to quit for that day until you find and disarm that bomb.

When the nine months are nearly over you take your final examination. The students are taken to a coastal bombing range where live bombs and mines await them. This is a final exam to stir the heart of the most cantankerous college professor. As the saying goes: "A student failing the final is effectively removed from the course of study."

The training is so complete however, that an accident has never taken place during the final exam. A real testimony to the comprehensive training of the school and the nerves of the men.

Then to work.

Upon graduation from the school the men are assigned to an EODU or one of the smaller EOD teams of the

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Above, W. H. Eaton is assisted by R. F. Roberts in checking out a new mixed gas rebreather rig for EOD work. Roberts wears a conventional lung. Below, Boatswain's Mate C. E. Nowell, left, and Lt. Ernest A. Upmeyer examine a badly corroded Civil War Parrot Shell found during a school excavation. The shell is even more dangerous than when fired.



TO ERR IS FATAL

(Continued from Last Page)

fleet. As a graduate of the school they are accepted in the field with confidence as a fully qualified Explosive Ordnance Disposal Technician.

In the field the work is varied and at times drudgery. For example: In the area around Charleston, S. C., countless numbers of unexploded projectiles from the Civil War lie buried beneath the ground. Excavation, erosion and souvenir hunters are continually exposing these projectiles. Last year a small boy found a large cannon ball at the Folly Beach area near Charleston. The missile was turned over to the local police who in turn notified EODU-2. They picked up the shell to render it safe, and in the process discovered that the shell was live and extremely dangerous. It was filled with black powder which was dry and unstable. This is the case with most shells found in the area.

A large 80 pound projectile was found during the excavation of a school yard in downtown Charleston. This shell had remained "buried alive" for 100 years and was more dangerous the day it was found than the day it was fired.

Local citizens are urged to turn these shells over to the EOD specialists for disposal or rendering safe. During the disarming process of these old shells it is sometimes possible to determine which side fired the shot and at what stage of the war it was fired.

As mentioned before, skin diving or deep sea diving is secondary in EODU's activities. It does, however, take up a major portion of the time. As viewed from a living room couch, through a television set, skin diving may seem to be a highly romantic pastime. Any veteran of EOD work who spends a great amount of his time beneath the surface will tell you it is not as easy and enjoyable as the TV programs make it seem.

Try to imagine diving in water 28 degrees F while trying to identify an object with bare hands. The visibility is nil, pitch black, and after six minutes your hands are too numb from the cold to feel anything.

Or... try diving on a search for missing bodies lost in a pier fire. The water at 40 feet is black and cold. You are searching through three layers of debris which are being shifted by the tides and currents. To make matters worse the burned and broken debris is full of jagged nails and metal objects.

Better still, don't try it at all unless you are a skilled amateur or professional. In fact, a number of EOD men are convinced that some amateur skin divers will lose their lives because of lack of training and improper safety precautions.

Despite the hazards of their profession, the safety record of EODU-2 is a remarkable indication of their thorough training. Since the activation of the unit in 1951 well over 27,000 dives have been made without a serious accident. Naturally, there have been cuts and bruises and a few sprains, but these are to be expected.

Diving safety is of paramount importance. Each dive is planned so carefully that accidents should never happen. "We have to plan carefully," says Chief Gunner's Mate Steve Krecelic. "We all agree on a plan of attack to a problem and then we carry it out. We don't go underwater alone. One of the easiest ways to get in big trouble is to go underwater alone."

The proper tools for the job is an extremely important

part of the operation. You certainly can't feel secure disarming a live mine with a pair of pliers. Even with the proper tools the job requires the nerves of a safe-cracker. The tools are as sophisticated as any other facet of this work. Even to a power wrench which can spin a fuse out of a projectile and throw it clear before it can function.

The proper tools also includes the diving equipment used by the men. Each man is assigned his own gear and is responsible for it's upkeep. In addition, to maintain their condition of readiness and mobility, 80 gasoline engines must be maintained along with the small boats used in their diving operations. Oxygen and air bottles and breathing regulators must be kept in perfect condition and the rubber "wet suits" must be patched and cared for.

Daily training classes are held for those not working on a job. This training program keeps the personnel up-to-date on all the latest information in ordnance work. They are the experts on whom the Navy depends for all types of ordnance disposal work.

It's a busy job. The men take great pride in the organization and the work they do. One petty officer growled, "We're not frogmen... the UDT types. We're ordnance disposal technicians."

There can be little doubt that this job requires more than just a little guts. Even the most modest must admit that raw courage certainly plays a big part in the work. In any job where one mistake can be fatal, courage and knowledge are all important.

The officer in charge of the compact group of experts is Chicago born Lieutenant Commander Donald P. Nellis. This soft spoken, 35-year-old father of seven, entered the Navy as a seaman in 1943. Since the Korean war he has been in primary duty with explosive ordnance, including a year as an instructor at the Indian Head school.

With the development of scuba diving equipment, the old "hard-hat" deep sea diving rig has taken a back seat in most diving operations. Most EOD dives are made with the self-contained underwater breathing apparatus equipment since it offers more mobility and requires much less time than the traditional, cumbersome 195 pound deep sea rig.

New type units are now being used. The latest is the scuba mixed gas rig, or "rebreather" as it is sometimes known. The advantages of this piece of equipment are important to an EOD man. It enables him to remain at deep levels for longer periods and it does away with the familiar bubbling sounds associated with the standard scuba outfit. This latter feature can be most important to an ordnance man when searching or working on an explosive device which is sensitive to sound, such as an acoustic mine.

Why, you may wonder, do people do this sort of thing for a living? Ask that question of a group of men in the business and you will get a variety of answers ranging from the profound to ridiculous. But the idea of "something new every day" seems to come out most. Most of these men wouldn't be really happy in any other work... even when the going is rough and the weather is cold.

During one operation I saw a diver come out of the water and stand on the deck of a barge on a cold overcast day. He suddenly began to shake so badly that I began to fear for his health. When I mentioned it to one of the other divers on the barge, he said, "Hell, he shakes like that all the time. He'll shake himself warm in a minute."

The dangers of the deep don't seem to bother these men too much. Working in teams of two seems to offer a certain amount of security. A veteran of 20 years of diving with the Navy summed it up this way: "When you dive in pairs and you run into a shark, there's a fifty-fifty chance that he'll go after your buddy."



Above, H. H. Cartright drills into a Civil War cannon ball to remove the dangerous black powder. Note his protective clothing. Below, Lt. Upmeyer makes a final inspection before drilling into the parrot shell on facing page. Drilling will be done hydraulically from behind concrete wall, then powder is flushed out with water.



Personality Spotlight

BY CONNIE JOHNSON

Hugh Downs

HUGH DOWNS, one of the busiest and most versatile personalities in television, is an avid devotee of skin diving. The personable, pleasant spoken announcer of the "Jack Paar Show" and host of "Concentration" has been a swimmer since he was just a kid back in Lima, Ohio, and used the basic diving equipment for years when he decided to try scuba gear "for a lark and became completely inamoured with the sport."

His first experience with self-contained diving equipment seven years ago turned out so well, that he advocates the same technique in teaching friends. Hugh explains that by sitting down with full gear in the shallow end of the pool he mastered the arts of mask clearing, etc., but could always stand if he felt he was in trouble. He has found that the reassurance of having the surface so close and being able to stand completely out of the water has made it easy for his friends to overcome the first fear of being in a strange element with your air supply coming through an awkward feeling mouthpiece.

"My first impression of the underwater fantasy," Hugh recalls, "was of extreme pleasure which has lasted ever since. When I was just a kid swimming underwater in the ole swimmin' hole, I enjoyed being underwater except for three things which were annoying . . . I couldn't see . . . had to struggle to stay down . . . and kept running out of air. Well, as you know diving has solved these three problems in the mask, weight belt and scuba and now my underwater activities are a complete delight."

Hugh had regarded his first fully equipped dive like most non-divers "I didn't think I'd like being weighted down with all that cold, heavy, wet gear," he said remembering the free feeling of swimming. However, remembering the problems of not being able to stay down long enough to enjoy the sights, he jumped in. "Once I was submerged the water opened up a marvelous world for me," he said.

Asked if he'd had any encounters with the animals of the seas, he quipped, "I feel that most swimmers and beginning divers should be more afraid of the current and murky waters, than of the animals which don't bother you if you don't bother them."

Although his early years of diving included spearfishing, he reveals that he hasn't speared a fish for five years but has become more interested in underwater photography, both still and movies. "It alarms me that the public thinks diving and spearfishing are synonymous," he said.

"My last photography trip was with Elgin Ciampi," he said. "We wanted some shark footage and Ciampi had a shark cage built. We chummed the water and went down hoping to capture several species on film, but the only kind that appeared was blue sharks."

Hugh left early in November for a vacation in the Near East and announced that he hoped to open another facet of his diving while visiting in the Beirut, Lebanon, Damascus and Jordan areas . . . that of underwater archaeology. He hopes to dive on some of the now submerged Biblical cities.

His Near East diving will add another new diving site to an already envious list including the fresh waters of New England and Silver Springs, Florida, and ocean diving off the northeastern part of the country, Florida, California, and Bermuda. He dives the year round off Watch Hill, Rhode Island, and revealed that he preferred winter diving there because of the clear water at that time of the year.

An aficionado of clear water, he spoke of an interesting dive he made in the crystal clear water off Catalina last year. He mentioned upon surfacing to west coast diver-friends Gustav Dalla Valle and Randy Stone that he had cleared more frequently than normal for a 30 foot dive. His two friends laughed and said the clear waters were misleading, that he'd gone down seventy feet, not thirty. During the trip he tried out Healthway's underwater submarine, and also meet and dived with Diane Webber who was on location shooting footage for the recently released movie "Mermaids of Tiburon" (cover and feature story, August SDM).

Hugh's love of clear water stems from a desire to see the beauties of the sea and the lack of clear water near his New York home. "Visibility is quite a problem on the east coast," he said.

(Continued on Page 45)



UNDERWATER RESEARCH

By JOHN LaGORCE

THE invention of the "self-contained underwater breathing apparatus" (scuba) has provided man with the ability to go underwater and weightlessly explore the ocean's secrets.

Everyone who has used the scuba has surfaced with the excited feeling, "This is for me." As a sport it has grown to include skin diving clubs throughout the world.

However, scuba is more than a sport. It offers countless practical and scientific uses from underwater demolition during World War II to archaeology. And now, scuba has taken the lid off underwater zoology.

Richard Poole and Don Kuester are two skin diving zoologists at the University of Missouri. They are working on their master's thesis by developing a creel (what the fishermen harvest in terms of catchable fish) census of skin divers' ability to spear fish.

Having been skin diving off and on the last five years, I was interested in their study and asked to go with them on a weekend trip.

Several weeks ago I received a call from Kuester asking me to be ready to go to Bull Shoals Lake in the Ozarks. Poole, his wife Joanne, Kuester and I squeezed into the truck loaded with camping equipment, lungs and three large cylinders with compressed air to fill the diving tanks.

Some 250 miles later, we arrived at our site, pitched camp, prepared the equipment for the next day's dive and went to bed.

Zoology as a science dates back to Aristotle. No wonder it had an early start when persons like Joanne, Poole and Kuester are up and preparing breakfast over an open fire before my eyes are opened to the fading of evening stars. After breakfast, we loaded the outboard motor boat and putted across the lake to a cove where fish should be plentiful along the rock shelves and caves.

A white disc was lowered into the water as far as it could be seen, and the cord marked in feet gave an indication of water visibility. Water temperature also was recorded. These conditions are checked before each dive because water visibility affects efficiency in spearing, and water temperature affects fish activity and availability.

The best time to dive is around noon when the sun's rays are vertical to the water rather than at a slant because there will be less reflection from the

surface allowing light to penetrate deeper. Most fish are speared in less than 50 feet of water in Missouri with visibility poor beyond that depth in this state's lakes and rivers.

We went ashore to put on our rubber suits, lungs, fins and face masks. Joanne gathered wood to make a fire to keep us warm when we returned from diving.

Adjusting the mouthpiece of his regulator, Poole gripped his face mask and splashed in and began a 40-foot descent to the bottom of the lake. I followed with Kuester.

The water temperature was 60 degrees, but we were well insulated with our rubber suits and did not feel cold. As we descended, our air exhaust, recorded our depth as it bubbled its way to the surface. Sunlight hit the prism-like water, and refracted rays forming columns pointed out our descent until the light began to fade at 30 feet.

The silent world became an active world of life and movement. Some fish were attracted by our air bubbles and others wanted nothing to do with "the intruders." Spotted bass, large and small-mouth bass, shad and blue gill jetted in and out of the bubbles and circled around us getting close and then swam away when we reached to touch them.

Visibility was fair, about 10 feet, which gave ample distance to spot and to spearfish.

Kuester and Poole were interested in spearing any type and size of fish over six inches, so they went ahead and started cutting out fish to spear.

Suddenly, Kuester started waving frantically, so Poole and I swam to him.

Kuester pointed to a turtle which he had speared. The spear had gone through the turtle and stuck to a log. It was a large snapping turtle with uninviting jaws. Finally Kuester managed to pull the spear loose from the log and we ascended with the spiked turtle.

After reaching shore, we removed our masks to have a closer look. The turtle was not as big as we had expected. The water had magnified his size, but his jaws still looked big enough to take a sizeable hunk out of us.

The speared fish with the turtle were taken to camp. "Now science begins," Poole said. "We start recording our observation of fish behavior to our spearing and which species are

easily approached and speared."

The report contains a physical description of the lake, clarity and depth of water and number of fish in the area. Since their study is done in lakes and rivers of varying sizes these conditions differ and affect the ability of skin divers to see and spearfish.

Amount of time spearing, number of fish caught, size and weight are part of the report to determine how many fish can be speared. "Our study is a management project to predict an average amount of fish that can be speared in a lake or river," Kuester said.

The study also will include reports on fish behavior in their habitat, spawning activity and dietary habits. Scuba can also be used for other scientific studies such as checking different types of fishing tackle and nets, taking bottom samples and census of fish populations.

Having finished recording data for the day, we prepared for the next day's dive. The lungs were refilled with compressed air from the cylinders and our gear cleaned.

The next two days of diving went on schedule with an hour and a half for each day's dive. Since it was not necessary to decompress, we could dive as much as we wanted. And there is no affect of nitrogen in the blood stream. At deeper depths, nitrogen increases and requires a diver to decompress at different depths, as he ascends, to expel the excessive nitrogen, or he will get the "bends."

When Kuester and Poole started their experiment last June, there was tense feeling of exploration. "Arriving at a lake, we sensed no signs of civilization," Poole said. "The lake appears so clean. But we were wrong. Civilization was at the bottom: beer cans, garbage and even a cigaret lighter that still worked. Later came the boats. Their high-pitched whine filled the water with a noise that destroyed the silent world of divers and fish."

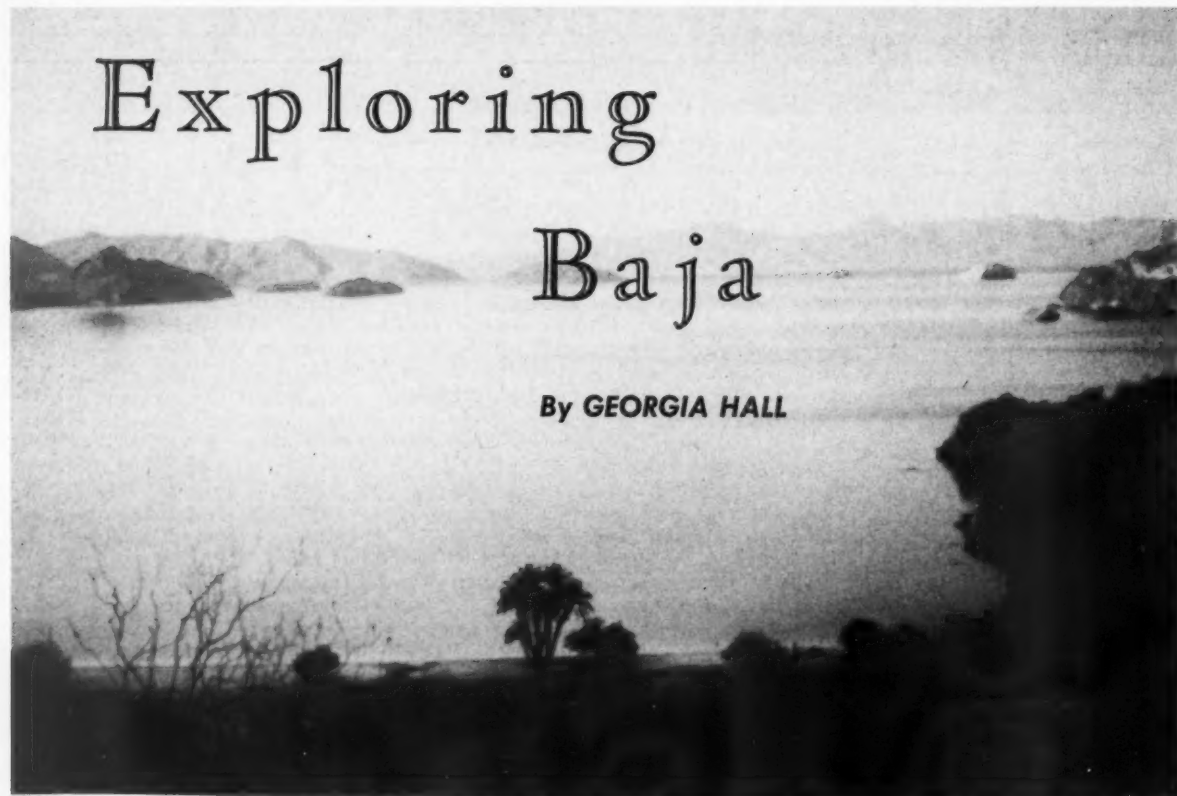
This is the first underwater study conducted in Missouri rivers and lakes. Sport Fishing Institute and Missouri Co-operation Wildlife Research are giving financial support in conjunction with the University. Dr. Arthur Witt, Jr., professor of zoology, is directing the study.

The results are not yet completed, however these aquatic researchers expect to finish their work before graduation.

Exploring

Baja

By GEORGIA HALL



We all dream of the warm tropical waters of far off places like the South Seas or Hawaii. Most of us will never see them. It is said but true that these places are too far, cost too much money, and take too much time to reach. But there is a land, a vast unexploited and beautiful land surrounded by water with all the pleasures of a lake, the mysteries of an ocean, and the tropical waters of a south sea island — this is Baja, California. This strange little peninsula which jets down below California and belongs to Mexico, is dashed by the waves of the cool Pacific on its western side and soothed by the calm waters of the Gulf of California on the other.

Air travel is the main transportation to and from Baja. It takes four hours to reach La Paz from Tijuana. For the adventurous and young at heart, there is a road which winds an exiting and determined way through rough lava beds, sand-washes, up mountains and along sheer cliffs to La Paz and the Cape.

There are also hundreds of other cattle-trail type roads leading to unexplored bays along the route, with a mere handful of road signs and the only pavement ends a few miles below Ensenada. I only want to discourage those who think it might make a nice Sunday drive. The average time by truck to La Paz (900 miles) is five twelve-hour days of driving, and there are no accommodations, gas stations or frosty freezes along the way.

The traveler who comes prepared with extra gas, camping equipment, food and water, will find a land waiting to be explored. Here is a land with friendly people who will give you anything they have which may often times be only a few beans and tortillas.

We found ourselves among an increasing number of people who feel the desire to see more of Baja than a four hour 8,000 foot glimpse will allow. There are many wonderful camping and diving spots a few hours from the border and a week's vacation can take you

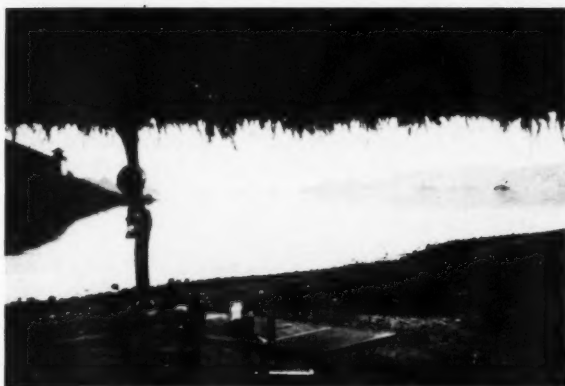
well into unexplored waters; but we wanted to see all of Baja. It took us five months and 3,500 miles to see most of it, and it will take a life time to enjoy it all.

Equipped with jeep, camper and boat, we soon found ourselves living on beaches, eating fish for almost every meal, and washing our clothes in salt water. I must admit now that I am back, I have a deep appreciation for that most common of household fixtures, the sink with running water. But in spite of inconveniences, the trip as a whole to us is a glorious memory of endless sunny days with cloudless skies and sparkling blue waters with miles of unrestricted white beach.

I have chosen three places in particular to write about, they are the ones in which we spent the most time and did the most diving. The first is Mulege (pronounced Moo-la-hay). It is accessible by air lines to Santa Rosalia and from there by cab about fifty miles. There are two air strips for light planes and two modernly equipped American operated hotels. We camped for a month on the beach next to a fishing lodge which was run by an American named Bill Lloyd and has clean grass huts and serves excellent meals. Bill also rents cruisers and small boats that may be taken to fishing and diving grounds at Santa Inez Island or the enormous Conception Bay.

Mulege is a small tropical paradise that is one-hundred years behind times. The population is 900, half of which are children. They are almost self sufficient with beautiful gardens that grow fruit and vegetables of astounding size and sun-ripened flavor. The village sits on the edge of the Mulege River about a mile from the Gulf. Dates are its main crop so the whole valley is a sea of waving palm trees when viewed from above, and it stands in strange contrast to the desert country around it.

Our first experience there was a much needed fresh water bath in clear warm springs pools complete with palm log to dive from, and palm fans to lie on as we



This is the view of the outer bay from the campsite of the Hall's at Escondido Bay.

dried ourselves in the warm sun. We immediately fell in love with Mulege's exotic atmosphere. If you want to do nothing but relax, here is the ideal place to do it. However, if you are typically American you soon get the urge to do something; and if you are a skin diver you will have on your gear with your first glimpse of the calm gulf waters. As it was late March, the water was still cool enough for a suit (about 70 degrees). By the time we reached La Paz in May, the water had warmed to 85.

There are no facilities for filling air until you reach La Paz so there was no point in our taking tanks. All of our exploration was snorkel diving (that fine old lost art) but I can't remember one trip during our stay at Mulege that we didn't bring back a boat load of fish or scallops, or both! The scallops were five-inches in diameter with meat a good two-inches across. They grow in clusters so thick that two or three may be taken in one dive, and it seems the local natives just don't dive, so the scallops have been enjoying a carefree life all these years. They are the rock variety that have a purple lipped shell and a delicious flavor reminiscent of crab.

If you like to spear fish, you may take your choice of size. We never dreamed that we would run into such monsters, and our Mickey Mouse equipment was soon bent, broken and lost in the sides of hundred-pounders that we just couldn't resist a shot at!

We had to learn the hard way that we could only hold fish up to twenty pounds on our light gear, and we spent a good many hours repairing bent shafts and making new spear-tips after our evening meal had been speared.

Our favorite eating fish was one the natives called the Pargo. He comes in about ten varieties, and possesses a fierce looking expression with protruding front teeth (for eating shell-fish) and a wicked gleaming golden eye. They are predominately found in the rocks, but one variety which is a lovely shade of red-orange prefers the sand, and we speared many ten-pounders in the mouth of the river where the salt and fresh water mix.

Cabrilla and Grouper of gigantic size are found throughout Conception Bay, and at the Island of Santa Inez; Yellowtail and Bonito, Sierra and Barracuda cruise in schools for the diver who likes a lively target. The water is usually very clear (about fifty feet visibility) at the island, and an excellent place for underwater pictures.

We never went hungry for fish on our trip and if

we got more than we could use, the Mexicans were always very grateful for any of them, even ones we considered poor eating, like sharks.

About ninety percent of the fish in the gulf are good eating. It is not hard to tell the species which are not. The Puffer fish with his spines is obviously not a very good bet, and the Trigger, who has many tropical relatives and an eye that follows you around underwater never looked very appetizing to me.

Most of the more tropical and colorful types aren't very good eating and besides who wants to spear fish that follow you around like curious children, flitting in front of your speargun practically impaling themselves? I have a theory about these lovely tropical fish. Knowing full well that they aren't good eating to big fish like the skin diver, they surround him giving warning to all the others in the vicinity who might be fair game. Dashing ahead of you as you swim, the little "watch dogs" keep others posted on your whereabouts and as you move on to new grounds, a new group takes up the watch.

One incident proved to me that fish do help each other in various ways. When diving in a cloudy back-water bay, two fish not over two inches long started swimming in front of my mask. They were so close at first, I thought they were in the mask, and I swatted at the little black and yellow images. They disappeared for a moment, and then all of a sudden they were back out of nowhere. My husband, who was swimming near, watched carefully and later told me that they would take a position just under my chin whenever I swatted at them, and then dart back in front of my mask. This went on for over a three-block swim and we finally decided they were small pilot fish trying to lead me to food which they would also share.

Only curiosity of the unseen and untried drove us on to the next camping and diving spot—off the beaten trail below Loreto to a bay more beautiful than we have ever seen in all of our lives.

Escondido Bay is totally surrounded and sheltered by saw-tooth mountains that would make a mountain goat shudder with fear from the height. We camped on a sand spit at the entrance of this bay. A channel thirty feet wide and nine feet deep connects it with an outer bay which leads to the gulf. Through this tiny opening passed

(Continued on Next Page)



Completely natural in a glamorous pose, Georgia Hall explains best fishing was at offshore rock.

BAJA

(Continued from Last Page)



Dirt road was normal highway for Halls. It winds through forests of Cirro cactus.

cruisers from Loreto and sailboats from all parts of the West Coast of the U. S. They anchored here to rest and fish in the calm protected water. Since this was the only opening to the bay, all the fish passed through too and it made an exciting place to dive. We easily passed a month of diving, fishing and exploring in and around Escondido. During our whole stay there, not one other car or truck entered to disturb a tranquil atmosphere and Escondido seemed to live up to her name, "Hidden Bay."

Right in front of our camping spot was a cluster of rocks which produced a variety of shell fish. Oysters, Scallops and Aches (a member of the pen shell family) could be gathered diving or just picked up at low tide. If we had wanted to, we could have easily lived the whole month on shellfish, they were so plentiful.

One of the yachts which came in from San Francisco had diving-gear aboard and they were kind enough to let us borrow their tanks for a look around. There was one spot in particular we wanted to try—a place in the outer bay where a sheer rock wall dropped down to some caves in about fifty feet of water.

The visibility was exceptionally good that day and it felt so good to be able to dive down to some of the places we had only been able to see from above. In a very short time we were peering into the blackness of the caves, and peering out with equal interest were large Groupers and other fish I have never been able to identify. A flurry of tails and bubbles and underwater thunder filled the next few minutes as the fish decided they didn't care for our looks. More exploring produced many similar incidents and as a grand finale, a school of cruising yellowtail swept in for a close look at the 'awkward seals' and then continued on their way. One weekend (not that we kept track of days, but it just happened to be a weekend) a couple on a forty-foot schooner took us to a bay just below Escondido called, "Agua Verde" (green water). The water actually was a green color with a sandy bottom. In the entrance of the bay was a tall rock called "Solitary" and it produced a wonderful variety of fish. This was the place I speared a rare golden Grouper which was as tasty as he was beautiful.

This was also the place we had a near disaster as gas from a leaky line ignited when the outboard motor backfired through the carburetor setting the whole boat

on fire. We quickly extinguished the flames with sea water (the only thing we had in our ten foot boat) but this left us out a good two miles from the yacht with a motor that wouldn't run. Naturally this was the one time in a thousand trips we didn't bring a paddle. Since the other couple was with us, we found a new use for swim fins. Each of us put a fin on his hand and we made remarkably good time getting back to the yacht!

La Paz is a small Mexican City full of pleasure and leisure from the palm shaded Malacon water-front street where an unusual number of beautiful single girls stroll to the market place, where everything from fruit to salted shark may be purchased.

There are three good hotels on the Malacon that have modern facilities and they all overlook the lovely bay of La Paz. One of the first things we did was to make contact with Dick Adcock to find out about diving in and around La Paz. Dick, who lives in a very nice little house on a side street in La Paz is an American who has the only skin diving service there. He and his wife were very kind to give us what we felt was a good picture of the diving to be found locally and advice on what spots to try. We looked over his equipment and found it to be better than most we had seen state-side with a very comfortable barge equipped with sleeping quarters, kitchen and sun deck.

Since we are die-hard campers, we spent only a few days in La Paz itself, long enough to replace our supplies and then were on our way to a place called Sopressa that Dick had told us to try.

In all of Baja we found no better place to dive than this one just about twenty miles east of La Paz. The water was warm and clear and more tropical than any we had tried. Even the waters of the Cape didn't prove to have more fish than Sopressa. There we saw all colors, sizes and descriptions. Marvin, my husband, is about half skin diver and half fisherman and so after a look around underwater he pitted his skill with rod and reel against a school of passing dolphin. After fifteen minutes he had landed a nice one, and in the meantime I had spotted and speared a turtle just about eating size. We certainly had a feed that night with turtle steaks and fried dolphin.

Our entire trip down and back cost us about \$650.00 including gas and everything. We could have taken a boat from La Paz to the mainland of Mexico and driven back on pavement, but we decided we could drive back cheaper and there were still many places we wanted to explore. A lifetime of exploring Baja would leave many places unseen, but one thing is for certain — "We shall return!"



East of La Paz at Sopressa, Mrs. Hall displays turtle and her husband the dolphin he speared.

OCEANOGRAPHY

By ROSS R. OLNEY

[Eleventh of a series on the importance
of oceanography in the next ten years]

Project Mohole

WHAT lies beneath the relatively thin bottoms of our oceans? Scientists are attempting to find out with one of the most fascinating projects in modern science . . . Project Mohole. With a drill miles and miles long, they will penetrate first the depths of the ocean off Southern California, and then the actual earth's crust itself. Down through this thinnest portion of the crust they hope to drill, down into . . . what?

"Moho" is the boundary between the earth's crust and mantle, the mantle comprising the great bulk of the earth, and it was after this Mohorovicic Discontinuity that Project Mohole was named. This boundary was discovered by Yugoslav seismologist Mohorovicic in 1909 by studying vibrations of distant earthquakes as they passed through it. It follows then that a hole drilled into Moho is a Mohole.

You may wonder why this extremely deep drilling is being conducted in one of the world's most difficult environments . . . the deep sea. The ultimate goal is to reach the earth's mantle, which lies at least 20 miles beneath the continents but, because of the depressions forming the oceans, only a few miles beneath the deep ocean floor.

Conan Doyle's eccentric Professor Challenger was the first man to drill down through the earth's crust to form an original Mohole. The difference between the present project and Doyle's creation is that when Challenger finally struck the mantle, a jellylike substance, he probed it with a long spike and it screamed in pain.

With a second look, however, a germ of truth can be seen in this fiction. Present theories point to the ocean's basins being raw wounds in the earth's skin, exposing moving flesh upon which our continents grow and change. Not trees, plants and people, but the continents themselves continue to grow, withstanding for millions of years the wearing, destroying ravages of wind and rain and ice.

It is hoped that this is one of the things which Project Mohole will prove.

Take the almost jigsaw puzzle like fit between the coastline of the two continents separated by the Atlantic Ocean. Past theory held that the continents were formed during a time when the earth was a molten ball. Sludge, or semi-solid areas, formed on the outside of the molten ball as it cooled, then as it further cooled contraction caused giant breaks in this covering and separate chunks drifted apart on a base of molten materials. There they continued to cool into a solid, with the gap between contracting and cooling downward to form, for example, the Atlantic Ocean. When viewing a map of the world this appears very obvious and is, in fact, a basis for modern theories on the growth and evolution of our planet.

There is one major difference in modern theory . . .

a theory which should be proven right or wrong if Mohole is a success. Once cooled, the ancients felt that the earth remained the same, with only wind and water changing its face. Now it is believed that the continents still move apart from each other . . . at a rate of about one inch per year.

Three layers of material make up the ocean floor. The first, and topmost, is about one thousand feet of soft sediment, debris from the continents plus the endless fall of countless skeletons of sea life. The second, about two miles thick, is assumed to be the solidified form of the first. Layer three, about four miles thick, is known only by the speed of vibrational waves passing through it, and is the key to modern theories on the growth of our continents. This is, technically, the actual crust of the earth beneath our oceans . . . if, indeed, there is an actual crust.

If this substance is as supposed, a phase change of the primary mantle rock, chemically identical but containing different minerals, then we can assume that it is the mantle itself . . . but moving slowly, inexorably, upward through the floors of our oceans. Floors which we have proved are young, geologically speaking. Floors which appear to be ever young, ever changing . . . again, geologically speaking.

In theory then, the Mohorovicic Discontinuity beneath the floor of the ocean is at a depth where pressure and temperature are at the point where they bring about a mineralogical change in the material of the mantle itself.

The mantle, in a constant state of movement, moves slowly upward and outward from central rifts such as the fossa along the spine of the mid-Atlantic range. Here the mantle spreads laterally, actually adding new strips of sea floor . . . and accounting for the fact that the sea floor remains young geologically. An opposing pattern of convection in the Pacific ocean is necessary but in this case it appears to descend into marginal trenches under the continents and is perhaps responsible for the periodic major earthquakes and tidal waves of the Pacific. This underriding also causes a crumpling of the margin, thus accounting for the ring of folded mountain flanges and volcanoes around the Pacific.

The sea floor spreading concept also supports the old idea of continental drift, but with new thoughts behind it. Interested readers may study further into these theories through books such as "The Earth Beneath the Sea" by Shepard (Johns Hopkins Press, \$5.00) and "A Hole in the Bottom of the Sea" by Bascom (Doubleday, \$4.95).

Project Mohole, if successful, will add new light and perhaps prove the theory of expanding ocean floors, of lack of crust beneath the sea, and of growing and moving continents.

FROM

MAINLINE



TO

Waterline

By

DOUG LACOMBE

AND BELOW



(Photos by Canadian National Railways)

The day was clear, hot and still; the sea was smooth as glass. A rubber clad diver walked slowly backwards across the raft, his flippers slapping at the planks.

A belt of lead blocks clanked intermittently against the air tanks harnessed to his back; streams of sweat ran out from under the heavy suit and trickled down his face.

He stopped at the edge of the raft, sighed with relief, and fell back into the sea. The diver hung motionless near the top of the water for a moment, then twisted, kicked hard, and glided away towards the bottom.

Schools of small fish rushed up and swam curiously about him as he sported porpoise-like around some old pilings.

He was transformed. It was almost as if some great creature had crawled clumsily out of the sea to peer briefly at the sun-drenched shore, and then had leapt back to the silent, misty world where it belonged.

Soon other dark figures joined him on the ocean floor; floods of air rumbled to the surface. One turned on a cutting torch, and the water seethed around the hissing flame.

An unknowing observer might have thought he was watching a team of professional scuba divers at work.

They were not professionals, but Canadian National Railways masons, machinists and steel workers who have learned the art of practicing their skills underwater.

Six tradesmen and a Canadian National draughtsman acquired diving skills in a rugged, thorough course conducted at Borden, Prince Edward Island, this summer by retired RCN Frogman Bob Wigmore of Halifax.

The six-weeks long "diving school" was the first of its kind for Canadian National, and the pet project of Regional Bridge Engineer Bob Weir.

Mr. Weir has long felt there was a need in the railway for divers who could quickly check piers, ships, bridge abutments and docking facilities.

"We could have hired scuba divers whenever we wanted them, but they would not have been quite able to do the job. What we wanted were railway trained personnel who could take their skills underwater."

Canadian National has used "hard-hat" divers for many years. Mr. Weir stresses that the scuba divers will not replace these men; they will only supplement them.

The different uses that will be made of the "hard-hat" and scuba divers can best be seen by examining a hypothetical, but not unlikely situation.

A bridge gang has begun some extensive grouting. However, a leak occurs and concrete pours into the water.

After several unsuccessful attempts to plug the leak, a mason-scuba diver is summoned and sent down to do the underwater trouble shooting.

As soon as the leak has been plugged, the diver is brought up, rested, and then put to work on the bridge gang, until his special skills are needed again.

And therein lies the difference between "hard-hat" and scuba diving. If a hard-hat diver had been put down,

(Continued on Page 51)



Diver Donat Godin relaxes with some required reading at the end of a hard day's instruction.



Above, Godin and Victor Murrin tackle the chore of refilling the tanks. Below, Gus Gallant shows young Blaine MacDonald a lobster he captured during the training. Divers George Vautour (left) and Fulton Stone look on.



MISS INTERNATIONAL BEACH TEMPTRESS

RUNNERS-UP



"I WON!" shouts beautiful Nancy Lynn of Fort Worth, Texas. A letter (and another photo) of this year's lovely Miss International Beach Temptress is in this month's Readers Ripples section. (Photo by Pete de Lackner).

Again this year the midnight oil burned in the offices of Skin Diver Magazine. From the hundreds of photos, a winner had to be chosen . . . a girl named to carry the title "Miss International Beach Temptress" for next year. The final selection was made and announced in the October SDM. Her name, Nancy Lynn, her photo, left. Then came the equally pleasant, equally involved task of selecting the runners-up, the Princesses in Queen Nancy's court. The four lovely choices are shown on these two pages.



An obvious choice due to her fresh beauty . . . and incidentally, another Texan, is Sandra Sutphin. Sandra hails from Baytown, Texas, and smiles as pretty as any beach beauty we've ever seen. (Photo by Howard Hamill).

For her particular savage loveliness, Jackie Jensen has already been published once in SDM's "Driftwood" section as Miss November. She was a natural selection for the Queen's court. (Photo by Jim Olsen)



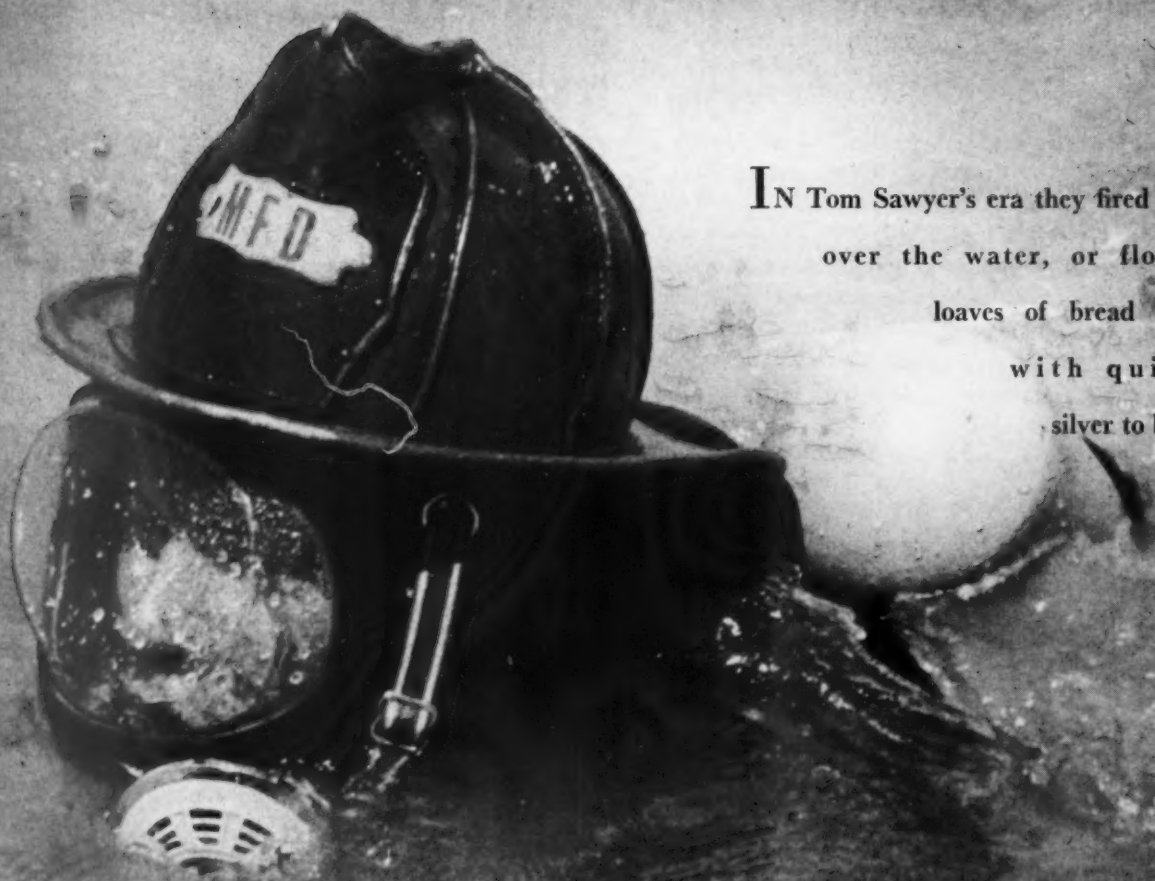
The most lovely of woodland sprites is Julie Grady. Julie is from Washington, D.C. and is a professional model. She is also the wife of lucky photographer, John F. Grady.



What contest would be complete without a beauty from a state of beautiful women . . . Florida? Mary Spokish is from St. Petersburg and claims skin diving as her favorite hobby. (Photo by Phillip K. Sandlin)



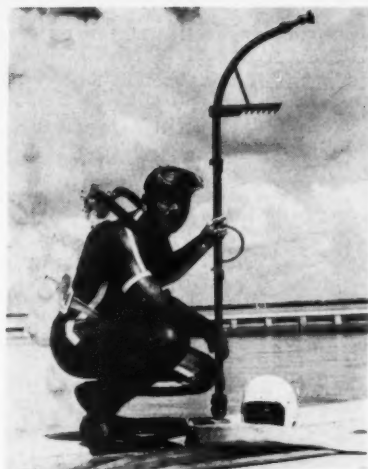
MIAMI'S



IN Tom Sawyer's era they fired guns
over the water, or floated
loaves of bread filled
with quick-
silver to bring

DIVING FIREMEN

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Author Haas, frogman firefighter, holds the special fire hose nozzle which incorporates a boarding ladder. The unit clears an area of fire so that firefighters may board a burning boat.



A derelict cabin cruiser is set afire in the yacht basin of Miami Seaquarium while underwater firefighters stand by to try new techniques to extinguish the blaze.

By LT. GIL HAAS

Miami Fire Department

(Photos by Hank Meyer Associates, Inc.)

bodies to the surface. Later came the use of grapnels and shallow water diving hoods to recover the drowned.

Scuba, today, is taking its place as an essential tool in public safety work. Soon after the self-contained underwater breathing apparatus was introduced into this hemisphere, it became apparent that it was invaluable in searching for and recovering objects from beneath the surface of the water. The City of Miami fire department is one of the fire departments of the nation that has worked actively in developing trained underwater diving units, and in experimenting with new techniques in marine firefighting, using scuba.

The problems of creating an underwater diving unit in a department of public safety fall into three categories: choosing personnel, choosing equipment, and developing new techniques.

The Miami fire department has had considerable experience in all three phases of creating such a program. Recently film was made by the department at the Miami Seaquarium to demonstrate new equipment and techniques at the next annual International Fire Department Instructors Conference, in February, in Memphis, Tenn. The demonstration included descent by a diver into the big reef tank of the Seaquarium, where underwater film could be made in the clear water of the tank. Because of the department's experience, an outline of the program of creating our unit can be useful to all divers.

Personnel is the first problem in developing underwater diving units. Unfortunately, many departments have a misconception about the use of scuba. One of the worst mistakes is to believe that a diving lung is just another piece of equipment, one which can be added to an inventory just by giving a brief checkout to untrained personnel.

This, of course is dangerous, and can lead to dire consequences. Even for pleasure diving one must be in prime physical condition. A medical examination should check for malfunctions that might have been acceptable or overlooked on a civil service exam. Complete and thorough knowledge of the theory and physiological aspects of diving can only be attained by competent instruction and a

great deal of individual study and practice. A man's ability as a diver cannot be judged only on the basis of how well he does in a swimming pool. Add to this list of considerations the need to recognize a common error, the idea that swim-aids will compensate for a man's lack of swimming ability.

It should, therefore, be apparent that the police officer or fireman who enters the water on an official call should be, first of all, an above average diver, for seldom can he choose the time or the place of his dive, and most operations of this kind take place under the most adverse conditions.

In the Miami Fire Department no man is conscripted into the underwater diving unit, because no one can be-

(Continued on Next Page)



No man from Mars, but Lt. Gil Haas wearing a special aluminum suit equipped with a universal breathing apparatus. This equipment enables him to breathe in smoke, surrounded by pure fire, or underwater.



Left photo shows firemen boarding burning cruiser with special boarding ladder/hose. At right, Paul Dammann, once on the world spearfishing team and now a member of Miami Fire Department, utilizes a hose float to approach a burning boat or dock.



come an accomplished diver without the love of diving. The prerogative of when not to dive rests on the individual, for to descend with even a slight cold or other taboo ailment could have traumatic results.

Because of the unusual shifts of duty worked by fire and police departments, many off-duty daylight hours are available, and this factor tends to draw those previously devoted to aquatics into these professions. In Miami we have been extremely fortunate in having champions and other experts as members of our unit.

On the United States spearfishing team that entered the world championship competition held at Malta in 1959, three out of the four members were professional firemen. They were Don DelMonico and Paul Dammann from the Miami Fire Department, and Coach Jim Christiansen from the Long Beach, Calif., Fire Department. Christiansen and DelMonico have retained their slots on the team ever since.

We are lucky in Miami to have a splendid source of skilled divers in the area. In areas that have no such resource, questionnaires circulated will often show that many firemen would relish the opportunity of learning this skill. In these instances, accredited intensive training courses could be arranged through local clubs, dive shops and recreational programs.

Many governmental groups lacking in manpower, budget, or even projected number of calls have entered into agreements with neighboring municipalities that possess these services. Not to be overlooked are the many diving clubs that would welcome the opportunity to use their skills to perform public service. Many areas have brought in diving club or individual divers as auxiliaries, providing them with the specialized equipment needed to perform their task.

When the department has the men, the next problem is to equip them. Rescue trucks usually accumulate certain miscellaneous unclassified equipment. Diving gear very often turns up in this category, among the resuscitators and the first aid kits, which isn't a bad place for it if there

is a sound, standard operational procedure governing its use.

Its use by the rescue squad, especially in areas protected by one unit, should be limited only to instances involving the possibility of actual lifesaving, for it is surely against public interest to place the lone rescue squad out of service for the sole purpose of recovery. Underwater rescue and recovery is, at best, one per cent rescue and 99 per cent recovery, for unless resuscitation is established within three or four minutes there is little, if any, chance of reviving a victim of submersion. However, there are many cases on record where victims have been kept alive in submerged autos by utilizing trapped air spaces.

In order to obtain the maximum utilization of rescue units, many departments have the rescue squad investigate the operation when first on the scene, and as soon as "backup" divers arrive they are returned to service, ready to render aid either on the scene or at accidents elsewhere in their territory after, of course, having set up an aid station at the diving site.

As yet, there are no universally accepted standards in search patterns or techniques. This points to the need for the establishment of a central clearing house for this information, so that it may be categorized and researched in order to offer the finest of plans. Working towards this goal is John C. Jones, Jr., of the Broward County Red Cross, in Ft. Lauderdale, Fla. He is well-known as a director of the National Association of Underwater Instructors and as Chairman of the Underwater Diving Committee of the International Rescue and First Aid Association. He is well qualified to shoulder this task, having developed outstanding procedures in the field of underwater search and recovery.

Definite operational plans are needed, because the scene of an accident is certainly no place to formulate a plan of action.

In Miami the city fire department unit has been conducting a series of tests of new techniques. One of the techniques was developed from an innovation introduced by the Los Angeles Fire Department, fire attack from in the water by divers.

They found that dacron-jacketed fire hose, the kind found in the hose beds of many fire engines, was buoyant. This holds true whether the line is charged or dry inside. By using swimmers, they found that fire lines, either from fire boats or dry land pumpers, could be floated into position under wharves and piers.

From this position, fires could be successfully attacked, expediting the entire fire-ground operation. Prior to this development some of these structures were too low for a fire boat to get under and it was necessary to chop through the platform in order to reach the site of the fire when the underside was involved. Going farther, the Los Angeles unit developed supplementary equipment, such as a floating nozzle that can be moved into position under its own power.

In Miami the fire department has been conducting a

ADDICT GUN PROVEN AGAIN. Smiling Chuck Nicklin of San Diego, California, speared the giant black sea bass in the photo with the Addict Gun shown. The huge fish weighed in at 252 pounds. An interesting sidelight to the event is illustrated in the inset photo. It is a slip tip which was imbedded in the side of the fish for over two years, fired originally by Ron Church. Unharmed by the tip in its side, the fish had formed a hard, protective shell around the metal but the line hanging from the tip had accumulated a growth of kelp, mussels and other sea life.



series of tests based on "human fire boat" techniques, with the cooperation of the Miami Seaquarium. A derelict vessel was set afire in the Seaquarium yacht basin to test the techniques. And divers descended into the reef tank of the world's largest tropical marine aquarium.

They found that a fifty-foot section of larger diameter fire hose, after having been inflated by men who blew into each end, could be formed into a substantial float by coupling the two ends together. These floats could be quickly made up in large quantities and used to good advantage in disasters such as airline crashes or boat wrecks.

The demonstrations further proved that divers swimming just below the surface of the water, and floating either aluminized proximity or fire entry suits in waterproof bags, could approach particularly hot fires on boats, barges, docks and the like. By using a newly developed boarding ladder type of nozzle, it is possible to clear an area on board the vessel afire. The divers can then climb aboard, dressed in protective clothing, after removing their fins, and then walk into and extinguish even the most deep-seated of fires.

Aided by the noted diving equipment developer, Jordan Kline, extensive studies have been made by a Miami Fire Department research team. By using the facilities of the Miami Seaquarium, they have proved that it is now possible to equip firemen with a universal breathing apparatus. One such as the Mako-Normalair can be used to protect firefighters in a smoke charged building, under a fire entry suit, surrounded by pure fire or while diving underwater, with little or no modifications. The advantages of a three-in-one unit of this type includes cost, convenience and safety. Visualize the protection offered to the cumbersome firefighter who, while working at a waterfront fire, falls overboard only to find that his protective clothing is not designed to float. If equipped with a mask of this type, he can make his way ashore beneath the water.

Today we are at the dawn of the era of this type of firefighting, in the age of research and development. More and more public safety groups engage in diving activities. Few innovations since the removal of horses from in front of fire engines have created so much interest and enthusiasm.

Christ of the Abysses



A TEMPLE without boundaries . . . a cathedral without walls, as large as the oceans. On the floor of San Fruttuoso Bay off the coast of Italy, hands upheld in a gesture of hope and grace, stands a mighty bronze statue of Christ. Cool, green algae is the aisles of this solemn church, flowing kelp the marble columns. Amid this splendor of nature stands the gentle figure, protecting the living on the surface fifty feet above . . . a friend and loving companion to the spirits of those who have been lost in this mighty sea.

The work is that of Guido Galletti, famed Italian sculptor, the original idea that of Duilio Mercante, square, hard as steel, but a man with a wonderful plan. A symbol of Christ, perhaps a small marble statuette, in the underwater world he loved so well. The idea grew and took shape and soon bronze scraps were pouring in from all over the world.

Olympic medals, medals of heroism from dead servicemen, small coins from poor mothers offered as a gift for their child's recovered health, even a bronze medal from the Pope himself. Bronze recovered from the sea by divers and bronze scraps from many nations in the world, all were melted together to form the creation of Galletti and the people of Italy, the Christ of the Abyss.

And so, in 1954, it was lowered with great ceremony into the green depths of the bay. It has stood since, serenely accepting the visits of countless thousands of divers who swim in awe before the figure as their bubbles rumble to the far surface.

During the Christmas season the visits double and redouble, and with this month's cover, SDM has attempted to give American divers a small measure of the grandeur and beauty of the figure of Christ in San Fruttuoso Bay.



If present plans are successful, there will be an identical statue by the same sculptor in some yet to be chosen, quiet cove off the coast of the United States.



Quarterly Edition!

December, 1961

Diving News

DEVOTED
TO NEWS OF



CLUBS, COUNCILS
SPEARFISHING



This beautiful silhouette was snapped by Andris Lidums of the South Australian Lone Sharks at the end of a day's dive.

DIVE N' SURF LOBSTER CONTEST DEADLINE MARCH 16

The annual Sportsways Dive N' Surf Lobster Contest is now underway, but there is still time for everyone to enter. The contest will run through March 16, with \$500. worth of prizes to be awarded. Ten prizes will be given to the ten men who bring in the largest lobsters, and five prizes to five women.

There will also be a drawing at the close of the contest and anyone may register one

lobster a day towards this drawing. The rules are that the lobster must be legal size, must have been taken under the Fish and Game regulations, and must be alive when presented for registration. The only certified weighing-in station for this contest is Dive N' Surf, 504 North Broadway, Redondo Beach, California. Free lobster gauges are available at Dive N' Surf.

Ten Commandments of Lobster Diving

1. Thou shalt not have other Lobster Kings before me, as I always get the biggest and the most.
 2. Thou shalt not call a California Spiny Lobster a Cray-fish.
 3. Thou shalt not use the "Bug-Hooks" in taking Lobster.
 4. Thou shalt bring home only 10 lobsters per day - if thou shalt be so lucky.
 5. Thou shalt not night-dive for lobsters in strange areas or thou might not return to Flock.
 6. Thou shalt not steal a lobster over 18 lbs. 2 oz., (or thou wilt have taken a bigger one than I.)
 7. Thou shalt wear protective gloves while Bug-diving or thine hands shalt become hamburgers.
 8. Thou shalt bring home no Lobster shorter than 3 1/4" from the center line of the eyes to the end of the hard shell, or thou shalt not be allowed to watch Sea-Hunt in jail.
 9. Thou shalt leave the Bugs in the lobster traps for the people who own the pots.
 10. Thou shalt not covet thy neighbor's catch.
- Stolen from the WIND JAMMER, a Skid N' Dive publication. ~

San Diego Forms Underwater Photographic Society

The Underwater Photographic Society of San Diego would like to announce its formation. We held our first meeting on September 28, 1961, with nineteen persons in attendance. Interest is high and the need great for such an organization in this area.

We are under the expert guidance of Ron Church, noted underwater photographer. Plans for the future include regular meetings and field trips, film showings, intra-club competitions, processing our own film, etc.

Those persons interested in becoming a part of this new organization should write to either Bob Kent (president) at 1016 Loring Street, San Diego, or Lyn Palmer (secretary) at 7522 La Jolla Blvd., La Jolla. We are anxious that anyone interested in underwater photography become active in the society. ~

CAVE DIVING



By THEODORE L. THOMAS
PHOTOS By HENRY TOVAR

The Refton Cave is located a few miles due south of Lancaster, Pennsylvania, right in the heart of the Pennsylvania Dutch country. In fact the cave itself lies on an Amish farm under a wooded hill. The Amish folk on the farm were quite understanding when a swarm of cars and a light truck descended on them one bright Saturday afternoon. Henry Tovar, our expedition photographer, snapped a picture of the farmhouse, and the expedition almost ended right there. The Amish religion holds that photographs are sinful — something to do with graven images. It took us fifteen minutes to persuade the great bearded grandfather of the clan that we would destroy the negative. Then we all piled into the truck and drove off across a field of rye to the hill where the cave was.

The idea for the expedition formed when a couple of us looked over a booklet entitled "Pennsylvania Caves," put out by the Commonwealth of Pennsylvania. We looked at the Lancaster County section and saw a description of the Refton Cave contributed by some people who had been in it in the early 1930's. Part of the description mentioned that the cave contains . . . "water of undetermined depth." We had to go dive it.

We put together as fine a miscellaneous group of speleologists as the Commonwealth has seen in recent years. There was a car mechanic, a salesman, an electronic technician, an advertising man, a personnel man, and a patent lawyer. Three of us were scuba divers. Among us we were able to raise the necessary equipment in the line of ropes, block and tackle, lensatic compass, flashlights, and camera gear.

The entrance to the cave was a vertical hole in the ground measuring about four feet in diameter. The entrance lay at the bottom of a large funnel-shaped opening measuring fifty feet across at the top of the hill. The sides of the funnel grew steeper the closer one got to the cave entrance; we used ropes to get to it. Once there, there was a straight drop down about twenty-five feet to a cone of dirt that had built up inside the cave beneath the entrance. We rigged our ropes and slid down, and used lighter ropes to lower our diving gear. The shaft itself passes through about ten feet of olivine marble before coming out in the ceiling in the main part of the cave. It's about fifteen feet from the ceiling to the top of the cone of dirt.

It took a good half hour for our eyes to adjust to the darkness. Light from a flashlight beam would strike rock, scatter in all directions, and become lost; it was surprising to find how little one could see with a flashlight. The water in the cave was in the shape of a crescent about twenty feet wide and seventy feet long from tip to tip.

We hadn't been in long when we found evidence that we were not by any means the first ones down. Initials and dates were common, one set giving the date 1877. There were so many initials and dates scratched in the rock in one part of the roof that we had the impression that the Philadelphia Limited must have once made regular stops there. But — and this was a big "but" — the far rock wall rising out of the black water on the other side of the cave was virgin pure, unmarred and unmarked by the hand of man.

A snorkler went in with a pole and found a region ten to twelve feet deep. The other two divers suited up, and we all put on scuba and went in. Water temperature was about 45 degrees F. Visibility was about three feet with underwater lights, zero without them in the pitch blackness. The bottom of the shallows at the edges was covered with water-logged branches and small boulders. The deepest part we dived was about twelve feet deep with a hard-pan bottom. We cruised along the far wall and inspected it a few feet below the water line without finding anything of interest. We left no initials or other markings on that wall. After about fifteen minutes we came out, no treasure, no skeletons, nothing, except some experience in cave diving in unknown water. But to the divers, at least it was well worth it.

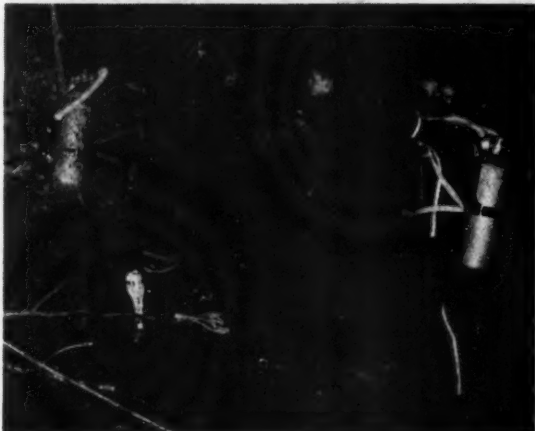
DIVING NEWS—December 1961



Entrance to the Refton Cave in Lancaster County, Pennsylvania. The nearest water lies forty miles away in a horizontal direction or forty feet straight down.



Peter Watt enters the cave, while Dick Dagle, standing on the cone of dirt, puts on his wet suit.



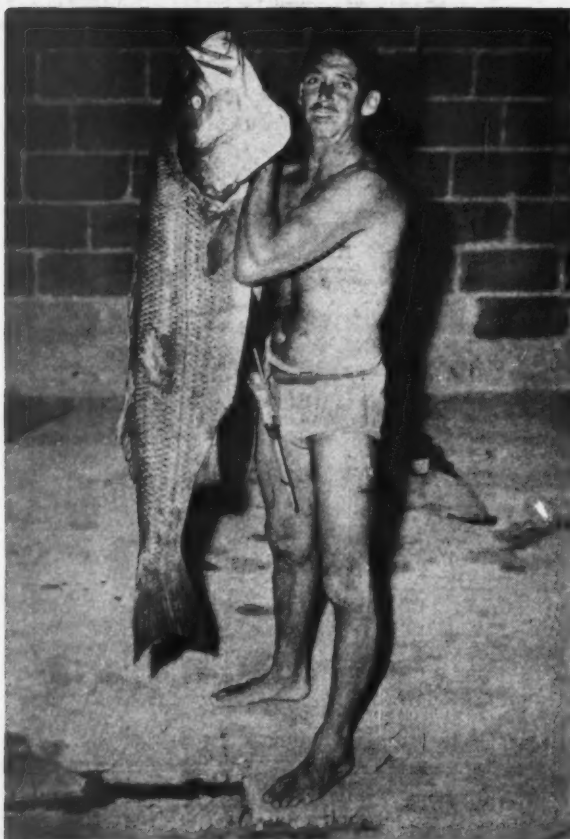
In the blackness, at the foot of the cone of dirt, Dick Dagle, Sandy Johnson and Ted Thomas get ready to dive. Jim Ramck holds the light.

THE ONES THAT . . . DIDN'T GET AWAY



Bimbo, Marineland of the Pacific's whale, tries to nibble the fins of Ron Church as he is photographing the porpoise for a show CBS did on "Kathy the Radar Porpoise" story.

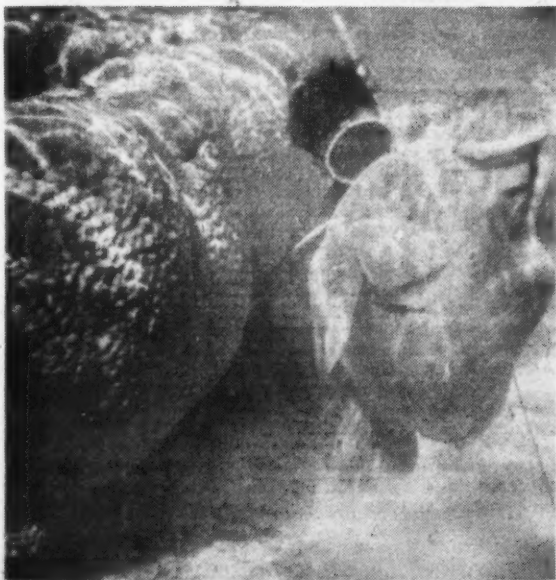
(Lower left) John Ciampa proudly displays the 54 lb. 11 oz. striped bass he speared while diving in 23 feet of water off New York. (George Cirello photo)
The gigantic 296 lb. rock cod pictured at lower right held the South Pacific record for two weeks. The monstrous fish was taken by Tom Sanders off the Fiji Islands. (Photo by F. Sanders)



Chuck Nicklin reels in a beautiful yellow-tail off the Coronado Islands. (Photo by Ron Church). Arnie Post of Central Skin Divers in New York on a trip to the west coast bagged the 20 lb. sheephead shown below at Ship's Rock off Catalina Island.



Alvars Sillins of the Australian Lone Sharks with a 65 lb. stingray (lower right). The catch was made at Aldinga near Adelaide. (Photo by Andris Lidmus). New Caledonia proved ideal spearing waters with the successful spearing of a 98 lb. wrasse. (Photo by Jim Getzel).



CONCHOLOGY



By
**Larry
Bess**



(Mr. Bess, 26, lives in Long Branch, New Jersey; and has been a diver since 1951. For the past five years he has been an avid amateur marine biologist and oceanographer. He is a television director at WNEW-TV, New York, and belongs to the International Oceanographic Foundation, Miami, Florida.)

As you learn about sea shells in this article, you will come to realize there isn't a marsh, beach, tidepool, or coastline anywhere in the world that does not harbor their beauty.

From the shores of New Jersey, to the Great Barrier Reef of Australia; from the frigid north of Point Barrow, to the Straits of Magellan in South America, sea shells thrive. Each group typical of certain areas.

Shells are not only interesting to search for and collect, but they can be educational as well. They can be sold in a market which sometimes pays very high prices. Conchology is a field that includes thousands and thousands of varieties making it an inexhaustible hobby.

Let us first take a look at the various zones of the sea the shell can be found.

The Littoral Zone

This is the area which in general refers to the region extending from the shoreline to the edge of the Continental Shelf. Littoral means, "of or pertaining to the shore or a coastal region". This zone is probably the most diversified, not only in Mollusca - the phylum which the shell collector is concerned with - but all types of sea life.

Because the Littoral Zone is so vast, biologists have broken it down into lesser zones. For simplification they are as follows: The Beach Zone, Tidal Zone, and Subtidal Zone.

The Beach Zone

Here we find the region from the high water mark to the backshore of a beach, including the sand dunes and marshes.

Anyone who has walked along a beach has seen the flotsam that has been deposited there by storms and tides. It is here that you can find a variety of specimens; although shells exposed to the sun and being out of the water for weeks only leaves a decayed and bleached organism. Professional conchologists will not usually collect a shell unless taken directly from or around the water. This is so because they want to clean them themselves, and because the true beauty will be present.

My own experience has found this to be true, but one can still find some specimens that have retained their lustre, and that have not been damaged by weathering to add to their collection.

The Tidal Zone

This is without a doubt the most rigorous surroundings of the sea. It is here that the tides cover and uncover jetties, breakwaters, and sandbars, causing changes in temperature, wetness, and light.

In this area we might find a rocky, sandy, or muddy shore. A rocky shore will hold such forms of life as barnacles,

mussels, and various snails. These animals might either bore into rock, attach themselves to seaweed, or even pile up on top of other shells.

Tidepools formed by waves will hold the above mentioned, including gobies, killifish, and periwinkles.

The sandy and muddy shore has as inhabitants clams, whelks, and snails. If there is any grass or seaweed you'll also find crabs, and starfish.

The Subtidal Zone

The mollusks found here are similar to the ones in the Tidal Zone, except there are more of them and a bigger variety.

This is truly the conchologist-diver's paradise, for this zone covers the area from the low water mark into deep water. One can now dive beneath the water to capture his shells. In doing so he opens a whole new world of diving to himself. Diving now becomes more than shooting fish. Like others who have branched out and dive for purposes of photography, wreck exploration, and treasure hunting, so has the shell collector taken to snorkel, mask and fins to discover an invigorating meaning to his submarine activity.

What is A Sea Shell

A shell is any member of the phylum of Mollusca that lives in the sea and that has a calcium carbonate shell, either external or internal.

Mollusks are divided into two groups known as bivalves or univalves. Bivalves are shells with two shells and a hinged ligament enabling the animal to open or close the valves. Oysters, clams, and mussels are in this group. Univalves are single shelled such as snails, whelks, drills, and winkles. All of these are outside skeletons of soft-bodied creatures.

The Formation Of A Shell

A shell is composed of lime extracted from sea water by the little inhabitant of the shell. The only instrument used in this sculpturing is the mantle (the lobe which bears the shell secreting glands). These glands excrete a tiny particle of lime. By adding one layer on top of another the shell is built to any thickness. Also each minute tube excretes a certain color. The color order can be uniform or not.

The question might arise, how long does this formation take. You might think weeks or months. Actually many shells can be formed in just a few days. Then again some species take rest periods forming the many ridges, varices, and other striations you see so often in shells.

As babies, most shells swim freely. They are small and transparent and swim by means of undulating hairs. Before they are several weeks old they are invisible to the naked eye, but by the time they are visible they have already formed a thin shell.

Naming Sea Shells

Throughout the world different words connote different meanings. For example, in England the word for gasoline is "petrol" or a policeman is referred to as a "bobby". Technically they are both correct. In order to do away with this cross reference, science has decided on referring to plants, animals, marine life, etc. in Latin. Because it is a dead language and not subject to change, and because scientists the world over are familiar with it, Latin has become the mode of scientific communication.

Each shell is given two names; first a general name indicating it's group, i.e. Strombus, meaning "conch", and then a specific name to pinpoint the shell alone, i.e. pugilis, derived from the Latin word pugil, meaning "fighter or boxer". The name of the person who first discovers or describes a species follows the Latin name. In this case it is Linnaeus, a Swedish naturalist who named it in 1758. Put it all together and you have the name *Strombus pugilis* Linne - Fighting Conch. The common oyster would be *Ostrea*, Latin for oyster; Virginia, referring to the state of Virginia. Many shells are named after areas in which they were found such as the Peruvian Conch. The Majority of shells though are named to describe the individual species.

Collecting Material

Let us assume you are searching in and around waters of New Jersey, New York, or New England. Of course, for you southern or West Coast collectors there are many more precautions to follow due to coral and marine life. If you are a diver native to these waters there is no need to go into these particulars. Check with a marine biologist or experienced diver in your locale.

For the northern collector who wants to remain a land-lubber, all he needs is his physical presence on a beach, along with a pail for large specimens, a small can or jar for delicate ones, some sort of stick affair for uncovering sand and debris, and a pair of sneakers or sandals so as not to injure the feet.

Remember one thing, collect any and all finds. Worry about what they are and if they are any good after you have checked them at home with your shell book.

The diver will need more paraphernalia. Equipment should consist of the following: Mask, snorkel, fins, net - attached to diver's belt or hanging on a float - a knife for prying or scraping, a pair of gloves, an ordinary garden spade for digging into holes or sand, and a pail and assorted jars for carrying purposes, to be left on the beach.

Cleaning Your Shells

In cleaning the univalves you might let them soak in a 5 per cent solution of formaldehyde for a couple of days. After this you'll be able to extricate the dead animal, wash the shell in clear water and dry them.

If this method does not appeal to you, you might take the sturdier shells, put them into an old kitchen pot or pail and boil the shells, both univalve and bivalve together. The bivalve shells such as the clams, oysters, and mussels will gape open. At this point take a sharp knife and scrape out the meat. Be careful not to scratch the inner surface or chip the outer edges. With the univalves such as whelks, snails, drills, etc., after the boiling process simply take any utensil with a hook affair on the end and pull the animal out.

After the animals have been cleaned out, your shells might, need further attention. Check the surfaces of the shell to see if there are any small shells, barnacles or encrustations adhering to it. If so take a small knife, or nail file and scrape away the undesired matter.

Some collectors will use a solution of clorox and water for the last step in preparing the shell. I don't do this unless the shell is quite dirty and there is some hard to get at matter on the shell. Instead I use plain warm water, flushing the shell thoroughly. One reason a strong detergent is not recommended, is that shells have kind of a hairy skin on them which should be left on to make your collection natural. Secondly, the shell surface along with the colors may be damaged if they are left in a clorox solution too long.

After your shells have been cleaned and washed let them dry in a shaded area, never in the sun, for this will tend to bleach the colors. When they are dry, take a little 3-in-1 oil on a damp rag and coat each shell. If done from time to time the colors will be preserved for many, many years. Above all never use shellac or anything like it.

Cataloging And Displaying

The best part of collecting shells I have found is when it comes time to identify your find, with the help of the many books on the subject. Two of the books I would recommend are, "American Seashells" by R. Tucker Abbott, which by the way can be purchased through the Underwater Bookshelf, or "A Field Guide To The Shells" by Percy A. Morris, Houghton Mifflin Company.

Basically, the collector should try to find the family, genera, and species of his shell, also whether it is bivalve or univalve. Each collector has his own method. You'll find yours.

Once you have pinpointed your particular shell you should now make some sort of label. It can be gummed, a piece of cardboard, or paper and glue. On the label I record only the Latin name, English name, and location of find. You can also add date of find, tide conditions, type of weather, etc. This degree of identification would mainly interest the professional biologist.

As to displaying your shells, this can be done in many ways as long as the shells are kept dust and sunlight free. Card-board boxes, cigar boxes, and jars are just to name a few. My collection is kept in various size apothecary jars. Some conchologists I have met have even gone as far as having chests of shallow partitioned drawers built. This could prove a little costly, but like many enthusiasts of a hobby, money is no object. Whichever you decide, it should be remembered to keep the shells of one genus and their species separate.

Any collection, neatly organized can be an asset to any den, playroom or workshop. The natural beauty is there, it is up to you to show it off.

From the searching to the finding through to the cleaning, classifying, and displaying, shell collecting is not all peaches and cream. Some of you at this point might think I'm "Some kind of a nut," if so there are a lot of demented people to keep me company.

When you were children, innocently picking up these creatures on the beach, holding on to them as if they were money, not knowing the whys and wherefores of their being, little did you realize their complicated existence.

I have planted the apex of your shell collecting future. Only you can make it grow into a truly fascinating hobby.

FAIRHAVEN WHALERS IN ... Underwater Research, Education

By COL. EUGENE S. CLARK JR.
Marine Biologist

One New England group of scuba divers for the past two years has been contributing valuable services in connection with underwater marine biological research and education in both adult and high school level groups.

This group is known as the Fairhaven Whalers and is located in the city of Fairhaven, Massachusetts, in the greater New Bedford area. New Bedford, once known as the great whaling port, is now known the world over as the deep sea scallop port of the world as more deep sea scallops are brought in here per year than any other port.

Bradford Luther, Jr., of Fairhaven, who since it's beginning has been the "spark-plug" of this diving group, contacted this writer several years ago for two purposes, one to offer his help in connection with any work that I needed done underwater and secondly to ask for information that would help him and his group to know more about the underwater life they see on dives.

Since retiring from the armed forces, I have been devoting all of my time to marine biological research in my own laboratory, at sea, and at the famous marine center of Woods Hole on Cape Cod. Much of my work is conducting marine biology courses for greater New Bedford High School students and adult educational classes for high school science teachers.

Needless to say Luther's offer of help was gratefully accepted and since that time I have seen these Fairhaven divers weekly.

As always happens in a large group there are always a few more interested in a subject and they work hard at it.

Luther was joined by Olin Smith of Somerset, James Romero of Fairhaven, and Thomas Lundy of Acushnet. These four Massachusetts divers have now been diving regularly for me for about two years.

To fully illustrate the marine lectures I am giving, it is necessary that I have excellent living marine animals to color photograph into slides to project during lectures. Such animals until the arrival of skin divers were not always easy to obtain. Now from time to time as I need specimens this group mentioned goes out into Cape Cod Bay in their boat, goes to the bottom in depths generally from 40 to 85 feet and not only bring up specimens for me, but also bring up samples of the bottom.

These specimens and the bottom samples are taken in plastic containers to my laboratory where they are placed in plate glass tanks and close-up color photos made of the living animals right in their natural surrounding.

To date several thousand such color slides made by me have been shown to high school students and teachers in courses. These slides would not have been possible without the assistance of these divers. Maybe I should qualify that statement by saying that these divers make the photographing of marine animals much easier and far more simple than depending entirely upon obtaining the animals by dredges. The use of divers permits a scientist to obtain only the specimens he wants and far better specimens than he might obtain from dredging. Also the animals are brought up uninjured and transfer better to the laboratory.

I was so much pleased with the work of these divers that I talked about them at length on my frequent visits to the U.S. Fish and Wildlife Service marine fisheries laboratory at Woods Hole.

On one occasion I was asked by the scientist doing research on deep sea scallops, if I thought this group of divers would be willing to do some work for him. I assured him that they would and arranged a meeting between Luther and the scientist. Since that time this group of divers has been regularly assisting with the sea scallop research. Needless to say it was first necessary to get certain clearances from the head office in Washington and certain agreements had to be signed by the two parties involved.

One service this group is rendering to the laboratory is obtaining deep sea scallop specimens for the scientist every month in the year. This permits a study to be made month by month of scallops in just a certain area and much information is being gained on habits, feeding and sexual development.

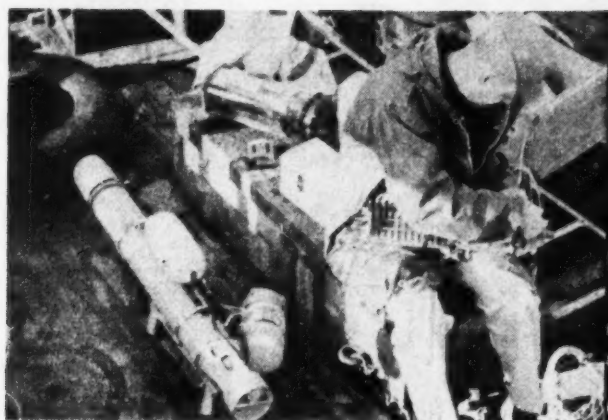
Due to heavy ice in Cape Cod Bay and the Cape Cod Canal last winter, this part of the work has not been easy for the divers.

Another outstanding piece of work performed by the divers for the fisheries laboratory took place in October of 1960, when the four divers mentioned made several trips to sea with scientists to make moving pictures of the bottom over beds of sea scallops to study their movements and the effect of the scallop dredge upon them.

This study was carried out with the addition of another very well-known diver in the New England area, David Owen of the Woods Hole Oceanographic Institution, who actually operated



Divers Brad Luther Jr. (facing) and James Romero look over contents of dredge after emptying on the deck of the Noah A.



Divers David Owen of Woods Hole Oceanographic Institution checks over movie camera for underwater work with members of the Fairhaven Whalers.



Brad Luther Jr. shows budding young biologists on a field trip to Cape Cod specimens he has collected in deep water. The youngsters of a marine science class are collecting specimens from shore and tide pools.

the movie cameras and with the assistance of the other divers rode the scallop dredge on the bottom of the bay.

Another valuable service this group has rendered to me is assisting with field trips of the various students in the courses I conduct. Typical of such a trip is the taking of 100 students to a seashore at low tide to study the forms of life found at the shallow waters of the edge of the sea and to pick up the dead shells of mollusks for identification.

On such trips these divers have gone along and while the students were studying the edge of the sea, the divers were opposite them in deeper water picking up living specimens from the bottom. Every fifteen to twenty minutes the divers would come ashore with net containers full of specimens which the students could observe and compare with what they

had found at the edge of the sea. Such occasions often pointed out to the students that different animals live right in the same area, some in two to three inches of water and entirely different ones only a hundred or more feet away off-shore in deeper water.

The continued services of these divers will greatly increase the value of marine science programs in schools of New England, and give a far greater understanding of the life of marine animals to the science teachers.

It is hoped that other divers reading this story, whether they be diving in fresh water ponds and streams or in the sea will offer their services to schools and research organizations within the area they live. They will be rendering valuable assistance to youth education.

NORTHEAST COUNCIL OF SKIN DIVING CLUBS



By DOROTHY WINNETTE

49 Meadowbrook Rd., Westwood, Mass.

The date is Saturday, November 25th (not the 18th as previously stated). The event: The Northeast Council Annual Awards Dinner. The Place: plush, popular Hotel 128 just outside Boston at the junction of US Route 1 and Mass. Route 128 in Dedham. There'll be dinner 6:30 p.m., dancing, introduction of new Council officers, presentation of annual and special awards and a terrific program.

We are privileged to present a man who has made diving history and opened a new frontier in depth. Only a few months ago, "Life" magazine featured an article on the descent to depths in excess of 700' by two men using scuba equipment and undisclosed mixtures of gases. Indications at this moment are that Kenneth MacLeish will describe his unparalleled accomplishment for us. In addition to being (with Hannes Keller) the world's deepest diver, MacLeish is also a distinguished journalist and a senior editor of "Life." On the same program, Jim Cahill of New England Divers, ex-Navy frogman, society appointed member of the Board of Directors of the NAUI, nationally known diving authority, admired and respected friend of divers all over New England.

It's going to be a big evening, so plan to be there. Tickets have been sent to all Council member clubs and most diving dealers in the Boston area. You can also get them by writing direct to the Council - \$3.50 each, tax included. For those coming from a distance, overnight accommodations are available at Hotel 128. Please make your reservations in advance.

The Annual Council Election Meeting will be held in a conference room at Hotel 128 at 2:30 p.m. the day of the dinner - Saturday, November 25th. This is the most important meeting of the year! Plans are afoot to reorganize the Council Board of Governors, to alter the structure of the organization, and to activate additional committees. This is in addition to electing our officers for 1962. All clubs are strongly urged to send their representatives. The purpose of the Council is to serve its member divers. We cannot do this if you let us and yourselves down by failing to attend. Don't forget, one vote (and it might be yours) can swing an election.

Two important events held in October - the Mass. Congress of the NEC held its final meeting of the year at a dinner at the home of the Fairhaven Whalers. Col. E.S. Clark, marine biologist from Woods Hole, presented a most interesting and instructive illustrated lecture.

On October 22nd, the Margate (formerly Christmas Island) Meet was held at Laconia, New Hampshire.

From the Lowell YMCA Co-ed Sea Divers comes a glowing account of their recent dive at the Isle of Shoals. Forty people drove to Portsmouth, N.H., to board a 62'

boat for what they describe as the most beautiful underwater spot and the most fabulous dive they've ever enjoyed. Temperature, visibility, everything perfect. They're going to make it an annual event. Perhaps the most significant happening of the trip concerns the boat captain. According to reporter, Mrs. Dorothy Cloutier, he was pretty apprehensive about taking the club out. Seems he had recently had a boatload of rowdies (let's not call 'em divers). But the Lowell people pitched in and helped him in many ways, handling lines, clearing obstacles from around the dock, proving with their thoughtfulness and cooperation that divers are pretty nice guys and that they can be useful. So favorably impressed was the captain that he urged them to let him take them out again and asked for their advice on how he might improve the facilities of his boat for diving. Let's have more such diplomatic victories.

A somewhat similar episode: Two members of the Yankee Flippers were invited for a day's cruise across Long Island Sound. Their host, while not exactly anti-diver was not enthusiastically pro-diver either. He wasn't pleased when, hopefully, the divers brought along their snorkeling and spear-fishing gear - "takes up too much space on deck, darn foolishness, etc., etc." But while casting off, he leaned across the ship's rail and his glasses (he's all but blind without them) fell into 8' of murky, mud-bottom ooze. In seconds one of the divers was over the side. By feel and sheer luck the diver found the glasses on his first pass. We had a convert. "By golly, there is some sense to this business!" And he obligingly hoisted the muck off our hero.

CONTRIBUTORS TO WORLD TEAM

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V. Lesher, El Sobrante, Calif. 1
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Orange Co. Diving Assoc., Newburgh, N.Y. 5
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R. Hilde, Racine, Wisc. 1
W. R. Johnson, Fremont, Calif. 5
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A. Miskewicz, Chicago, Ill. 2
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A. Fournier, Fall River, Mass. 1
R. H. Wertz, Erie, Penna. 1
R. W. Stanley, N. Dighton, Mass. 1
C. Bunker, Lindenhurst, N.Y. 1
P. Weil, New Orleans, La. 1
W. T. Milliron, FPO San Francisco, Calif. 1
D. L. Keller, Coudersport, Penna. 1
L. J. McAdams Jr., Haddon Heights, N.J. 1
J. Ditley, Excelsior, Minn. 1
L. Hansen, Sacramento, Calif. 1
J. Lanham, Columbia, Mo. 1
J. R. Walt, FPO San Francisco, Calif. 2
Maj. R. C. Sproull, APO New York, N.Y. 1
Rev. J. E. Allen, Willowick, Ohio 1
J. G. Sprague, N. Beach Haven, N.J. 3
W. Sanders, E. St. Louis, Ill. 2
V. Torres, Bronx, N.Y. 1
R. Bond, Molden, Mass. 1
P. L. Gorman, Danvers, Mass. 1
J. Futch, Nashville, Ga. 1
D. G. Smith, Oromocto, N.B., Canada 1
J. Pederson, Chicago, Ill. 5
R. G. Sousa, Chino, Calif. 2
C. L. Stewart, Farmington, Mo. 1
D. A. Still, Syosset, N.Y. 1
M. Ferris, Fortville, Ind. 1
J. Alward, Manchester, N.H. 1
F. M. Smith, Philadelphia, Penna. 1

T. R. Brooks, Rapid City, S.D. 1
W. Waldner, DeKalb, Ill. 1
H. Schlottemeier Jr., Trenton, N.J. 1
A. J. Jankola, Perth Amboy, N.J. 1
J. S. Beal, Andover, Mass. 1
R. Bourguignon, Rochelle Park, N.J. 1
A. Schultz, Bronx, N.Y. 2
J. A. Hendrickson, Camden, N.J. 10
Island Divers Assoc., Freeport, N.Y. 10
J. Thompson, Indianapolis, Ind. 1
J. Mikelson, Cranford, N.J. 1
E. Gordon, Brooklyn, N.Y. 1
M. Casey, New Bedford, Mass. 1
F. L. Kempker, Marathon Shores, Fla. 1
C. Wiley, M. Mangum Jr., APO New York, N.Y. 1
S. Miller, Albuquerque, N.M. 2
S. Nagin, Merion Station, Penna. 1
P. L. O'Connor, Buffalo, N.Y. 1
H. V. Smith, Harvey, Ill. 2
R. A. Yakopoc, Gary, Ind. 1
R. L. Lunt, Los Angeles, Calif. 1
C. Taylor, Los Angeles, Calif. 1
F. Brandl, Canal Zone 5
R. Jacobs, Hamden, Conn. 1
C. J. Carrpl Jr., W. Seneca, N.Y. 4
Sea Devils, Pawtucket, R.I. 4
G. Coats, Mason City, Iowa 2
W. A. Coulter, San Antonio, Texas 1
T. Gerrity, Fair Haven, N.J. 1
L. Amcon, Philadelphia, Penna. 1
A. Mullins, Oakland, Calif. 1
E. W. Sandlin, APO New York, N.Y. 1
C. W. Martin, Hialeah, Fla. 1
J. Stewart, El Paso, Texas 1
R. M. Hoksanson, Morillo, Texas 2
J. A. Peartree Jr., Mt. Home, Idaho 1
A. D. Avanzo, Norwalk, Conn. 2
R. E. Goodrich, Vallejo, Calif. 1
B. Fate, Ingleswood, Calif. 1
J. Miller, APO New York, N.Y. 1
C. Ruessett, Kenilworth, N.J. 1
S. Canas Jr., Montpelier, Vt. 1
M. Johnston, Ellsworth, S.D. 1
B. Owsley, Miami, Fla. 1
B. A. Kirley, Skaneateles, N.Y. 1
T. L. Thomas, Lancaster, Penna. 1
R. E. Shaffer, Blenheim, Ill. 1
R. Mort, Afton, Mo. 1
G. E. Mullen, Dorchester, Wyo. 1
C. G. Hunt, Seville, Texas 1
J. Galderon, Cheyenne, Wyo. 1
R. Allard, Fort Lauderdale, Fla. 1
A. R. Beale, Portland, Ore. 1
G. A. Scallise, Warren, Ga. 1
G. Brown, Tawas, Mich. 1
E. D. Potts, Columbus, Ohio 1
L. A. Sullivan Jr., Lake Charles, La. 1
R. Cunat, Westchester, Ill. 1
J. L. Fusco, Rahway, N.J. 1
R. Adamy, Reed City, Mich. 1
T. W. Swallick, Melbourne, Fla. 1
L. G. Thorsen, Port Angeles, Wash. 1
B. Bayne, Warsaw, Ind. 1
R. Penn, Stuart, Va. 1
B. Dudley, Milwaukee, Wisc. 1
W. Dolphin, Spokane, Wash. 1
M. Mace, Pasadena, Texas. 1
R. Linderman, Scranton, Penna. 1
W. B. Hill, Milwaukee, Wisc. 2
D. Ragland, Fullerton, Calif. 3
T. Fritchey, Northampton, Penna. 1
A. T. Abromattis, Morristown, N.J. 1
L. A. Teague, Dallas, Texas. 1
L. Perkins, Dallas, Texas 1
S. Steele, Longview, Wash. 1
Newport Harbor Submariners, Anaheim, Calif. 6
J. Sanders Jr., Costa Mesa, Calif. 1
Herald, FPO New York, N.Y. 1
C. E. Gaither Jr., Statesville, N.C. 1
Old Colony Amphibians, N. Attleboro, Mass. 9
N. Racine, Eastleigh, Hants, England 1
M. Blackwell, Weslaco, Texas 1
S. Markos, Chicago, Ill. 1
W. R. Almstead, Flushing, N.Y. 1
J. Hudkins, Hammond, Ind. 1
W. G. Crawford, Cookeville, Tenn. 1



ARIZONA SKIN DIVING COUNCIL

By
CATHERINE VAN ZANDT
433 W. Culver
Scottsdale, Ariz.

From dawn to 7:00 p.m., Sunday, Sept. 3, a Spearfishing Contest, sponsored by the Arizona Skin Diving Council, was held in Guaymas, Mexico. The four trophies were awarded for largest aggregate, Jerry Bygendaahl, first place, Frank Ruckman, second place, Jerry Eygendaahl, third place, Bob McDannold.

The Desert Dolphins were hosts to the Arizona Skin Diving Council Convention held in September at the Desert Inn in Tucson. The movie "Silent World" was shown to the public and Council on Saturday evening.

Dr. Wright Cortner and Lt. Comdr. Donald Arveson were speakers for the Seminar on Sunday. A question and answer period was included. Following the Seminar, the banquet and general business session was held. At this time Irving Bartz of the Desert Dolphins was appointed publicity chairman and the Council voted on becoming members of the Underwater Society of America.

A prize was awarded for the Clubshowing the best attendance. The Dolphmen of Phoenix and our newest member club of the Council, walked off with prize, in which their club had 100% in attendance.



SOUTHWEST COUNCIL OF SKIN DIVING CLUBS

By **SONNY LOGAN**

3772 Metador Dr., Dallas 20, Texas

Mack Blaker has a diving service down in Houston now. He says he stays up 24 hrs. a day on this for air and service. Here is a place to get that boat trip set up for a Gulf dive.

We have the Instructor booklets in now. Also new car stickers are being printed. Ready soon.

Joe Raines and Frank Parrish of the Wichita Falls Desert Divers have made an interesting dive in a salt spring 125' deep near Estelle, Tex. Samples of anhydrite were taken and florescence dye tests made. The hole is funnel shaped with a lower chamber. This is where most of the salt water comes from that feeds into the Red river. Water was very clear. Frank also has started a worthy project of purchasing a recompression chamber for our area. This is a fine idea and deserves all our able support.

There is a dire need for action pictures for our 1961 Council report booklet to be published soon. Pictures will be returned to you and will be appreciated. Be sure to identify them.

In a letter from Leif Beum of Stadsbygd, Norway, he tells of finding five Russian cannons from an ancient ship found near the Isle of Hitra. The diving club in Trondheim has to put off raising them til next summer. Gets cold in Norway in the winter.

New council certified air supplies: Scuba Point compressor at Possum Kingdom, National Welding Supply in Ft. Worth and Sportsman's Center in Corpus Christi.

DIVING NEWS—December 1961

Clubs, Councils Send Material

Diving News has been revised with this issue to be included quarterly in Skin Diver Magazine. This new format has been established to better serve the clubs and councils of the western hemisphere.

Starting with this issue of SKIN DIVER MAGAZINE, DN will be published in the March, June, September and December issues of the magazine and will be devoted to the activities of clubs, councils and spearfishing contests.

So club reporters sharpen up your pencils and crank up the typewriters; this quarterly edition is for you and your activities. Let us hear from you.

In the past issues of the newspaper edition, we have been forced to severely edit club material to the point of almost annihilation. However, with the change in the format, we need your copy and action photos to better publicize club activities.

Deadlines for the newspaper are 45 days preceding the date of publication, i.e. March deadline is January 15, etc. Send your material to Diving News, P.O. Box 111, Lynwood, California.

GLAD SECOND SPRING OPEN

The second annual Spring Open of the competitive committee of the Greater Los Angeles Council of Divers will be held January 28 at Dana Cove Park.

A total of ten prizes will be awarded, five fish, one each for lobster and three grand prizes to the top mens, women and juniors.

All divers must register in pairs, juniors must have waiver. Registration is at 9:30 a.m., the meet from 11-3 p.m.

For the second year in a row, the Connecticut Sea Devils won the Connecticut Council spearfishing championships. Team members (left to right) are Tony Cassano, Jon Bergren, Joe Pallotti, Paul Boy and team Captain Ed Jacobs. The meet was held off Watch Hill Point, R.I., in October.



GREATER LOS ANGELES COUNCIL OF DIVERS

By RON MERKER

4426 W. Bolsa, Santa Ana, Calif.

At a recent meeting of the Council Clyde Robinson warned us of a dredging permit that may be issues in the Palos Verdes area. Thanks to Stan Baxter, a notice of this was sent to each Council member. The Council is opposed to the granting of this permit and hopes all members write to the Commission.

The Council sponsored a survey of the proposed dredging area. Early in October Mart Toggweiler, Bill Todd, Al Thompson, Beverly Weinsoff and Lillian Patton dived the area. Their survey showed that there were abalone, lobster and many kinds of fish in the area. Clyde will represent the Council at the Commission meeting. The Council and Underwater Society have sent letters objecting to the granting of this permit.

The October meeting of the Competitive Committee of the Council saw Dick Wellacher unanimously elected as the committee's new vice-chairman. The committee also voted on changing several rules including the point system which will now be patterned after Cen-Cal's one point per pound and one point per fish, and changing the fish size to twelve inches on all fish.

Several motions for changes were defeated including sending the winning team to the Nationals instead of the top three individuals.

COLORADO COUNCIL OF DIVING CLUBS

By DAVE MATHIAS

Denver Post, Denver, Colo.

At the recent Colorado diving meet in Grand Lake, Colo., council president, Alan Weisbart said the Colorado Council's membership had grown from "just a few scattered members a few years ago to a present full membership of all diving clubs in the state."

"A new council format will be developed in the immediate future in an attempt to organize diving within the state," Weisbart said. He said the Colorado divers will make application for membership in the Underwater Society of America.

The first meeting of the new officers elected at the meet was held last month at the council's headquarters, the Frontier Hotel, Denver, Colo.

"Much progress has been made in gathering diving information and will be available to all interested persons wishing to dive in Colorado," Weisbart said. He stated that the latest facts on diving locations and conditions can be obtained by writing the Colorado Council of Diving Clubs' headquarters.

The newly elected officers agreed that the recent state diving meet at Grand Lake was the best yet, thanks to the outgoing president, James W. Smith. Preparations are already being made for next year's meet and it is hoped that by this time next year our council will be members of the Underwater Society of America and all events will be conducted in accordance with the Society's standards.

Weisbart said, "progress reports and future Colorado council business will be sent to Skin Diver Magazine for publication in the Council Column of Diving News."

"Information sent to us by other councils on the problems of council organizing would be appreciated," Weisbart said. He asks that any correspondence, news letters and manufacturers information be sent to him at the Frontier Hotel, Denver.

DIVER'S CALENDAR

December 1	Deadline for New Jersey Council of Diving Clubs Spearfishing Derby for largest single fish of a species.
December 9	Vancouver Island Council of Divers banquet, Victoria.
December 15-16	Underwater Photographic Society International Film Festival competitions.
January 6-7	Underwater Photographic Society's International Film Festival, Santa Monica Civic Auditorium, Calif.
January 5-7	Fourth Annual Santa Clara Valley Boat, Travel and Sports Show, County Fairgrounds Exposition Hall, San Jose, Calif.
January 14	Metro Chicago YMCA Indoor Meet, Washington Park YMCA, 1 p.m.
February 3	Michigan Skin Diving Council's fourth annual skin diving ball, UAW Local 900 Hall, 28841 Van Born, Nankin Township, Detroit, Mich.
March	Middle Atlantic Underwater Council weekend charter flight to the Bahamas or Bermuda.
April	Middle Atlantic Underwater Council Third Annual Convention, Chester, Penna.

CLUB SUBSCRIPTION PLAN To SKIN DIVER MAGAZINE

P.O. Box 111, Lynwood, Calif.

10 one year subscriptions \$32.50

Additional subscriptions over 10, \$3.25 each. Attach complete list to this special club offer with your check for full amount.

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VANCOUVER ISLAND COUNCIL OF DIVERS

By BILL GREENWOOD
Box 757, Campbell River, B.C., Canada

The past year has proven to be a good one, competition wise, for the V.I.C.D. with no less than four inter club and open meets. The most recent, the Bohemians Octopus Grapple has proven to be the best of them all. This society sanctioned meet was held at Saxe Point in Victoria on October 8 with 48 entrants. Approximately 50 to 60 good sized octopus were brought in. After the weigh in all of the octopus caught were put in tanks of sea water and were returned to the ocean after the meet finished. The winners were: First Place team, Victoria Skin Divers, Bill Hook, Allen Hook and Bob Mills, 204 lbs. 12 oz.; Second place team, Bohemians - Victoria, Ray Linden, Bob Saunders and Lou Wilson, 191 lbs. 0 oz.; third place team, Helldivers, Vancouver, Stan Moore, Bob Smith and Cliff Donovan, 130 lbs. 12 oz.

The largest octopus trophy and the Pacific Marine Sports Perpetual Trophy went to Bill Hook of the Victoria Skin Divers who landed the winning octopus which weighed forty-nine pounds.

Public response was heart warming as evidenced by the estimated 1200 spectators. The event was telecast by local T.V. station Check-TV and broadcast live by radio station CKDA. Our thanks to the many people whose work made the day a success.

Tide Rippers-Campbell River

The Second Annual Campbell River Diving Fiesta started off with a bang at 10:30 a.m. with 61 divers registered for this Society sanctioned meet. Although the weather was not the best, the day was an overwhelming success. The following divers and teams walked off with the many trophies and merchandise prizes: Spearfishing: first Place Team - Pudget Sound Mudsharks, Pat McDaniels, Gary Keffler, Dale Dean, 132 lbs. second Place Team, Victoria Skin Diving Club, Allan Hook, Bill Hook, Bob Mills, 74 lbs. 12 oz.; third Place Team, Puget Sound Mudsharks, Bill High, Dick Peterson, Paul Powers, 72 lbs. 4 oz.; fourth Place Team, Puget Sound Blackfish, Bob Hill, Richard Klein, Eldond Howard, 72 lbs. 12 oz.; largest fish, Dale Dean, Puget Sound Mudsharks, 20 1/4 lb. cabezon. This is believed to be a new world record although it is not official.

Our own club placed fifth in this event,

out of the trophies but in the running. Winners of the treasure hunt first half (skin diving) first, Wally Levy, Kelp Cutters, Vancouver, and second, Bill Hitchcock, B.C. Helldivers, Vancouver; second Half (skin or scuba) first, S. Moore, B.C. Helldivers, Vancouver, second, Fred Lockett, Bohemians, Victoria, third, Bill Hitchcock, B.C. Helldivers, Vancouver. ➤



NEW JERSEY COUNCIL OF DIVING CLUBS

By BATTIST BRUNO
48 Sheridan Ave., Metuchen, N.J.

At our last meeting there were 25 clubs represented and five guests were present. Gifford Hart and Reef Skin Diving shop owner Chuck Tucker were two of our guests. They came to discuss the safety features of the council to recommend a quarry or place to teach advanced diving to some of the many new divers in our state, to prevent accidents such as the recent drowning of a scuba diver in a quarry in Pennsylvania.

The Council donated \$50.00 to the American Littoral Society for the opening dedication of the U.S. Fish and Wild Life lab at Sandy Hook, N.J. The Council is working with Dr. Lionel Wolford and his assistant John Clark in taking fish counts and surveys for the Society. Some of the Council members also donated time and work to the grand opening of the marine lab. Present at the dedication were such men as Secretary of the Interior Udall, Senator Clifford Case and Sen. Harrison Williams, many sports writers and editors of outdoor publications. In his dedication speech Dr. Wolford said that many divers from the New Jersey Council of Diving Clubs had helped him and his staff taking fish counts and surveys. He also mentioned that divers had helped a great deal in the setting up of the various displays at the dedication.

Several clubs are behind in the dues. All club secretaries and treasurers are asked to please check and find out if your club dues to the Council are up to date, if not please mail a check.

At our last meeting John Brown our chairman showed films taken at the National spearfishing contest held at Newport, Rhode Island, in August. Bernie Campoli showed some of his excellent slides taken in the Keys and off the Jersey Coast.

Herman Prince recently spotted two tarpon while skin diving in the Asbury Park area, one was about 150 pounds and the other 50 pounds. Herman shot at the smaller fish with his speargun, however the fish was able to get away. This is the first time that we know of a diver seeing Tarpon underwater in New Jersey waters.

Sam Watson of the Underwater Fishermen of N.J. is leading the state in the number of bass this year. Sam, as of this writing, has shot 156 striped bass. Bill Skripko of the Jersey Coast Frogmen has shot over fifty bass and still going strong.

The Council would like to welcome any and all divers to our meetings which are held on the last Monday of each month at the Central Branch "Y" located at 125 Main street in Orange, N.J. These meetings are at 8:00 p.m.

We also have some copies of "Spearfishing Conditions in New Jersey" left. If anyone would like a copy, please contact your reporter. ➤



MICHIGAN SKIN DIVING COUNCIL

By BETTY WATTS
23462 Irving, Taylor, Mich.

With the fall season here the club occupies the Youth Center swimming pool in Battle Creek and are going to make good use of it, for the club has adopted the Jerry Dzindzeleta Course for its membership to undertake to help keep in shape during the winter months. Each member is required to take the course one time, and possibly award those who pass with a certificate of achievement.

To set up the instruction course schedule and get the course underway, the club has selected three members of the club's Civil Assistance Team to do so; they are Sherm Schott, Lloyd Sanders and Joe Arnold. VIKING DIVING CLUB -

REPORTER FELIX POLAKOWSKI

The River Rouge Boat Club sponsored hydroplane races at Ballanger Park in September featured the Viking Diving Club displaying and demonstrating diving equipment.

Through the courtesy of the Diamond Awning Company a pool three feet deep and eighteen feet in diameter was set up in which Viking divers demonstrated the various pieces of equipment.

Over 900 posters explaining the Divers Flag and its use were distributed to the general public and boat owners at this exhibition. A demonstration of the Viking resuscitator was given by Jerry Mrowczynski and literature explaining mouth-to-mouth resuscitation was distributed at the same time. This device has been responsible for saving one life at Higgins Lake last summer.

For the protection and safety of the hydroplane race drivers, the Vikings had four experienced river divers on a cruiser during the races. Fortunately, their services were not required.

WATER BUMS SKIN DIVING CLUB --
REPORTER CLARA MATHEWS

We have been selected by the M.S.D.C. to solicit all of the door prizes for the 4th Annual Skin Divers Ball. We would greatly appreciate any help in gathering prizes. Contact this reporter at 4932 Montfaucon, Trenton, Michigan. ➤

INTERNATIONAL CLUB ROSTER

Be sure to register your diving club, council, or organization with Skin Diver Publications, Inc. The third giant list of diving organizations in the world is being compiled.

Organization.....
Secretary.....
Address.....
City..... State.....

Display your club emblem on one of our banners. We're collecting more emblems to make additional banners, so send yours in now. These banners are on display at SKIN DIVER MAGAZINE and at various diving functions.

WASHINGTON COUNCIL SKIN DIVING CLUBS

By BOB STAUNTON
3903 Ferdinand St., Seattle 18, Wash.

CELEBRITIES - Well the She Urchins are at it again, this time they are assisting the King County Safety Council with the "Emergencies Don't Wait Week". Al McGee scheduled Television and Radio broadcasts during the week of October 8-15 for these girls to demonstrate the use of the plastic airway in artificial respiration.

WASH COUNCIL VS CITY COUNCIL - President Ed Winskill, Bill High, Frank Bolling and a few other interested council members met with the city fathers to discuss a proposed bill that would virtually restrict the skin diving in this area. Thanks to the committee this was changed and now there are only three restrictions. NO diving on life guard patrolled beaches. NO diving within 300 feet of ferry docks. NO diving in Elliot Bay.

NAUI NEWS - September 10 - 16 was taken up with the training and education of twenty-one instructor applicants, hopeful of being certified by NAUI here in Seattle. Al Tillman arrived to assist in the course and seemed more than well satisfied with the calibre of men that were certified. Out of the class ten received certification.

A LOOK AT LIFE - One of the known national magazines made a two page color spread on the Tacoma Scubaneers Octopus wrestling exploits. One of the other clubs that is well-known for being intrepid "rasslers of octopuses" is still trying to get the green glint out of their eyes.

Puget Sound Mudsharks

REPORTER BRUCE EDNEY

August and September were busy months for the Mudsharks. In addition to the long awaited Nationals at Newport, Rhode Island, we competed in the Sounder - Blackfish meet at Rosario Beach, traveled to Campbell River, B.C. and Newport, Oregon, and rode an 8 knot current during the Bremerton channel run.

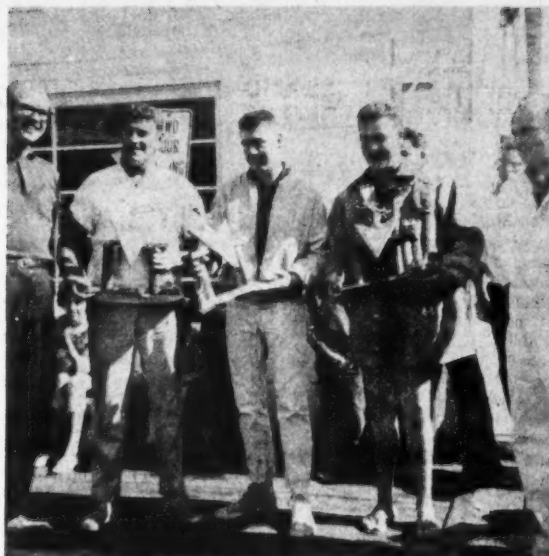
In competition with the best divers in the nation at Newport, R.I., Gary Keffler and Dale Dean came through for sixth place. While Gary and Dale were diving in Rhode Island, Ken Way, Dick Peterson and Glen Bates took enough fish to place second at Rosario. The Mudsharks were well represented at the Campbell River, B.C., spearfishing meet in September. Keffler, Dean and Mc Daniels grabbed first and the team of Paul Powers, Dick Peterson and Bill High took third place honors. At the Oregon Skin Divers meet at Newport, it was Keffler, Dean and Mc Daniels again in first place with Keffler also winning the post meet surf mat race.

The Bremerton channel run was the most unusual meet of the year. Using scuba, the contestants traveled with a fast current on a one way trip spearfishing what they could while drifting. Keffler, Dean and Mc Daniels put the Mudsharks on top again. They had to share top honors with Bob Kanton, however, who posted a sixteen pound cabezon for the largest fish.

Three more club members are now graduates of the NAUI week long training course, the most recent of which was held in Seattle. They are Bill High, Mack Thompson, and Bob Fulton. These three men along with Bob Staunton who was certified last year gives us a total of four NAUI certified instructors.

DIVING NEWS - December 1961

Mudshark team members Dale Dean, Gary Keffler and Pat Mc Daniels hold first place trophies from the Olympic Lancers Channel Run. Presenting the trophies was Dr. Ed Winskill, president of the Washington Council.



OREGON COUNCIL OF DIVING CLUBS

By LAURA LOUISE HALES

602 Henry Bldg., 309 SW 4th, Portland 4, Oregon

September's meeting turned out to be one of the best held yet with all but two clubs reporting. The Council decided to take into consideration listing all air stations and the quality, price, etc. two or three times a year in the monthly news letter.

The Council wishes again to remind all divers that crabs cannot be taken by hand in Nehalem Bay. Abalone may not be taken under 8 inches and a device for measuring them must be on your person the same as for taking crabs.

Neil Dummire and Pat Mc Daniels just missed placing Oregon in the National Spearfishing Competitions. The two-man team competing against three man teams would have placed third with their catch of 82 pounds but a miscalculation on the time limit disqualified their entry.

NEWPORT AUGUST 20 - Jim Riehl, Corvallis, took top honors at the second annual Newport Spearfishing Contest. This event was again sponsored by Clark and Bob Morgan of the Newport Park Coffee Shop with the aid of the Corvallis Aquamasters.

Riehl, an OSU Sea Beaver, speared three of the five chosen species weighing in with

a total of 36.3 pounds. William M. Hoy, a member of the Gold Coast Divers from Garibaldi placed second. Dan Walker, a snorkel diver from Oregon City repeated last year's performance and again walked away with third place.

Pushing the winners were Don MacLeod of Portland and Paul Riddle of Corvallis for fourth and fifth place.

NEWPORT SEPTEMBER 10 - Washington gobbled up the trophies presented by the Oregon Skin Divers Club at their ninth annual spearfishing contest. The Mudsharks took first place, the Blackfish second and a second Mudshark team received third.

The Newport Chamber of Commerce and merchants contributed more than \$1,000 worth of prizes and the Oregon fellows went home well laden down with most of these including "Big Fish" awards which went to Don Richardson, Springfield.

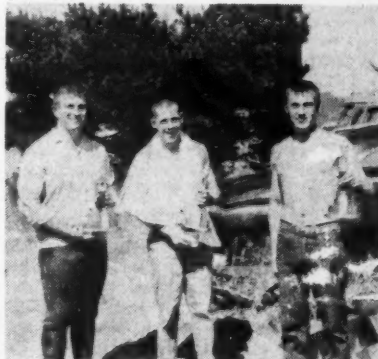
ODDS AND ENDS . . . Deputy Sheriff Henry Dougherty and Corvallis City Police Officer Cal McDonald, skin divers, placed a cable onto a car which ran over the bank and into the Willamette river a moment after it's occupant jumped when the brakes failed . . . Fred Anderson, 761 South Fir Street, Toledo, writes approximately forty guys in that area are ready to start up a club and would welcome any assistance offered . . . Air refills are now available in Newport. Latest word says see Deep Sea Bill's located under the South end of the Newport Bridge. The price is \$1.50.

Sea Hags - Seattle

REPORTER JERI BURR

A new club has joined the Washington State Council of Diving Clubs and the Underwater Society of America. The name of the club, consisting of females only, is the Sea Hags. Although we are yet a small club, we are very active. Most of our dives consist of trips taken across Puget Sound to the favorite diving spots of most of the Seattle diving clan. The trips are made on the 36 foot cruisers the Seattle Skin Diver or the Spartan.

We would like to extend an invitation to any women eighteen years of age or over to come to our meetings or on any of our dives. New or interested parties need only be completely outfitted, just very interested in our sport. For more information call or write Jeri Burr, Secretary, at 1726-46th S.W., Seattle 16, Washington. Phone WE 5-5794 or WE 7-2550.



Trophy winners at the second annual Newport Spearfishing Contest shown are Jim Riehl, William Hoy and Dan Walker.



by JEAN DOWD

Junior... FIN FANS

PLEASE ADDRESS ALL MAIL TO:
JUNIOR FIN FANS UNDERWATER MAILBOX, SKIN
DIVER MAGAZINE, LYNWOOD, CALIFORNIA

... I am a resident of Ottawa, Canada, dive in the Rideau Lakes and would like to be a marine biologist. I am 15 years of age and would like a Pen Pal who dives in tropical waters. John McKinlay - Key, Jr. 59 Winther Ave. Ottawa, Ont., Canada

... I am 15 years old and itching to go diving. I am fully equipped but am having difficulty finding a scuba partner to dive with. Joe Naples 20 Mitchell Ave. West Babylon Long Island, New York

... I am 11 years old and would like to find a club that gives instruction. I live in MarinWood. Ron Walthers 385 Johnstone Drive San Rafael, Calif.

NEW CLUBS - MEMBERS WANTED

THE AQUANAUTS CLUB
William Hoffman, 15 and Terry Brownlee, 15
379 Fullerton Ave.
Ottawa, Ontario, Canada

THE AQUAVETTES

... We are forming a club in the Spring Lake area and would like to hear from anyone who is interested in joining. Michael Joyce, Pres. William Stretch Jr. 50 Belmont Ave. 140 Upland Way Bala Cynwood, Pa. Haddonfield, New Jersey

POINT LOMA AQUA-KNIGHTS
Harry Stone, Secretary-Treasurer
4667 Point Loma Ave.
San Diego 7, Calif.

PEN PALS

Gerald Mekalet, 18
4241 Prescott Ave.
Lyons, Illinois

Eddie Holland, 13
41 Grinnell Street
Jamestown, Rhode Island

Greg Trautt, 14
407-10 Ave. East
Superior, Wisc.

Terry Ascherin, 12 1/2
4807 Snouden Ave.
Lakewood, Calif.

Jim Fedeson, 15
37 Jackson Ave.
North Tonawanda, N.Y.

Francis Kennedy
109 East Street
Wrentham, Mass.

Mike Priest, 16
R. R. #2 Sudbury
Ontario, Canada

Jim Saunders, 12
44 Northgate Drive
New Martinsville, W. Virginia

John Mottram, 19
86 Conway Street
Spreydon, Christchurch
New Zealand

Eric S. Kaufmann, 9
600 Entwisle, Westminster
Wilmington 8, Delaware

Keith Weaver, 10
10501 East 35 Street
Independence, Missouri

Tom Knight, 10
299 North Park Ave.
Appleton, Wisc.

Dan Rynning, 15
1005 E. Main Street
Auburn, Washington

John F. Deloach, 17
1710 Virginia Street
Florence, Alabama

Larry Richardson, 8
1055 Martin Place
Ann Arbor, Mich.

T. Richard Fisher, Jr., 15
4425 Aubrey Ave.
Philadelphia 14, Pa.

Perry Chapman, 7
217 McCully Street
Pittsburgh 16, Pa.

Bill Bongiorno Jr., 13
5715 Ave. H
Brooklyn 34, N.Y.

Illinois Council Indoor Meet

Feb. 11, 1962 marks the first indoor meet of the Council and commencement of a new system for determining eligibility to try out for national competitions.

As to the meet, it will be held at Lawson "Y" and will start promptly at 1 p.m. Registration is from 12 noon at 12:45 p.m. and \$1.00 covers it whether you are participating or only a spectator.

Regardless of affiliations, all divers are welcome to enter this meet. The sole distinction is that paid-up council members only are qualified to obtain points on respective performances.

CALIFORNIA BUG, AB, INLAND SPEARFISHING RULES MAY CHANGE

Changes to the 1962 angling regulations for the state of California are to be adopted or rejected at a December 8 meeting of the Fish and Game Commission.

Proposed changes that will affect local divers include inland spearfishing, lobster season and the replacing of detached abalone.

The proposed amendment to the underwater spearfishing in inland waters approves the taking of carp, hardhead, squawfish and sucker in six various areas by spear.

The Commission will decide whether to change lobster season to the first Wednesday in October to the first Wednesday after the 15th of March. If approved this would extend the current season to March 21.

The abalone regulation will be amended to read, "replacement of detached abalone: each abalone which has been detached but is not being retained must be replaced immediately by hand, with the shell outward, to the same surface of the rock occupied before detachment," if the Commission approves the change.

INDIANA SKIN DIVING COUNCIL

By JERRY JONES
P.O. Box 942, Marion, Ind.

The Marion Underwater Team hosted the October Council meeting at the American Legion Hall. Following the meeting "Rescue Breathing," the Indiana Bell Telephone technicolor and sound movie was shown.

Officers of the council are Keith Bates, president; Bill Schafer, vice-president; John Hudkins, secretary; Don Reygaert, treasurer; Ralph Fox, board member at large, and Charles Shoemaker, sergeant at arms. Committee chairmen are Paul White, special events, Milton Null, membership, Ken Kern, rescue, Tom Drake, safety, and Jerry Jones, publicity.

Fort Wayne Diving Club REPORTER BILL SCHAFER

The club has been very active this year with over sixty projects by the end of the summer. The highlight of July was a two-day camping dive at Logansport. The Civil Defense Divers practiced operation of the amphibious duck and salvaged railroad car wheels at practice.

An inter-club competition dive was held at Pleasant Lake with Dick Johnston winning the compass course and Bob Arnold taking the weight carry.



MIDDLE ATLANTIC UNDERWATER COUNCIL

By DON C. KENLEY
324 S. 11th St., Apt. 41, Philadelphia 7, Penna.

The formal summer diving season has ended but MAUC activities are moving ahead full force.

The final outdoor competitive event of the 1961 MAUC diving season was the Skin Diving Jamboree sponsored jointly by the MAUC and the Mar-Vel Diving Shop at Blue-Mer Lake in New Jersey. Over 350 divers and friends attended the "Jamboree" to participate in and watch races, compass courses, treasure hunts and special showings of the best in underwater slides and movies taken by MAUC divers.

A great morale booster has been found in the new rubberized MAUC patches for wet suits. The black and white patches have been distributed free to Council members for use on their wet suits. Anyone desiring additional patches may order them through Council at a cost of \$1.50 per patch.

Water polo contests, using flippers, were held on a trial basis last winter and proved so successful that the Delaware Underwater Swim Club has agreed to administer an official MAUC inter-club contest. Doug Ruthardt, chairman of the contest committee, says he expects over 20 clubs to compete in the games that were scheduled to begin in November. There are twelve (12) games scheduled.

The Third Annual MAUC Convention will be held April, 1962, in Chester, Pennsylvania, under the sponsorship of the Keystone Divers Association. Chairman Bill Drummond has announced that he would like to hear of any suggestions clubs or divers would like to see incorporated in this year's convention.

Jerry Spaulding of the Philadelphia Depth Chargers has been appointed Chairman of the 1962 weekend charter flight to a diving paradise. Jerry says that because of the turn away crowd that welcomed last year's flight to Bermuda, there will probably be two and possibly three planes chartered this year. At present it is a toss-up between Bermuda and one of the Bahama Islands. The trip will be held during March of 1962.

With adoption by Council of a minimum skin and scuba divers training program, Joe Birkbeck's committee composed of Don Kenley and David Stith has been reappointed to develop a skin and scuba instructors' Certification Program.

The single most important event in Council's history was its successful bid for the 1963 Underwater Society of America Convention. The Society selected the MAUC as host for the '63 gathering during its August meeting in New Orleans. MAUC President, Dan Fisher, has organized the 1962 MAUC Convention workers into a temporary committee to map out a working schedule for "the best divers convention ever held."

Indianapolis Aqua Divers REPORTER MITZI GRAHAM

A stag overnight dive was held at the L-Hole in Bloomington. Trophies were awarded following a competition to Jim Chapman, first, George Bauer, second, compass course; George Bauer, first, Ralph Fox, second, scavenger hunt, and Jim Chapman, first, Ralph Fox, second, balloon burst.



ILLINOIS COUNCIL SKIN & SCUBA DIVERS

By A. L. ANDERSON
Lawson YMCA, 30 W. Chicago Ave.
Chicago, Illinois

Here's the first response to the IC's Illinois state spearfishing records - Jim Lee (Scuba-Eyes) with a 34.8 carp speared in Cedar Lake, Illinois. (This catch won Jim the coveted Glaspas Spearfishing first award.) Jack Wardrop (Illinois Athletic Club) at Lemont Quarry speared a 1.15 sucker. Dough Andrews (9-90's) with a 3.8 striped bass and Dale Leitheiser (also 9-90's) with a 6.1 black fish hold records.

You do not have to belong to a club or the council to qualify for spearfishing records. Any citizen of Illinois with at least six months' residency may enter. To apply for a record simply send in your name, address, type and name of fish and its weight and length, geographic location where speared, whether you were wearing scuba. Although a black and white glossy photo of you and your catch is preferred, signatures of two witnesses are acceptable. All fish speared in competition will be automatically accepted if a record.

Jack Springer reports that as of Sept. 30, the recompression chamber fund has passed the \$1375 mark.

The Underwater Investigators held their annual banquet at Sparga's on Nov. 18. Carl Spatero showed movies he shot in the Mediterranean last summer.

High Ridge's Aquanauts have a new set of officers. They are Tony Waskel, president; Ron Riesberg, vice-president; Carl Clark, treasurer; and Bernice Sobel, secretary. At the club banquet on Sept. 30, Don Johnson was awarded a trophy as the Aquanauts' diver of the year.

Atlantis Divers held a seminar on underwater housings at West Suburban Y.

METRO CHICAGO Y

The October inter-club session found Metro's new chairman Arthur P. Swanson (AD) setting a precedent for the November instructors' institute with appointment of a committee of four which includes himself, George Vourvoulas (Tritons), Scottie Ricker (Orcas), and Bill Toentsch 'Cudas.

Newly elected directors are John Scott, Aqua Rays, on safety; Art Simms, Washington Park Aquanauts for program; Ron Riesberg, Hi Ridge Aquanauts, in competitions; Don Kern, Windy Fins, as membership director. Directorships in public relations and instruction are pending.

Chairman Swanson has announced the 2nd annual Metro Chicago Y Diver of the Year contest, will be resolved at the Indoor Meet on January 14, 1962. This 5th annual indoor meet, will be conducted at Washington Park YMCA, the starting gun at 1 p.m.

The 4th annual open water diving meet of Metro Chicago YMCA's, Sept. 10 in Lake Geneva at College Camp, Wisconsin, had seven clubs in clear-weather competition. Final top standings; first, Tritons; second, Atlantic Divers; third, Twenty Fathom Club. Winning time in the Men's Aquathon was 36:8 seconds, by the Tritons' Wayne Leengren. In the Girls' Aquathon it was 43:7 seconds by Susan Stake of the Twenty Fathom Club. Don Chillo and Bill Benda of Atlantis Divers did the skin and scuba retrieve in 3:29.6. George Wielander of the Scubas managed the underwater navigation in 4:40.9, and the sharing air race had a

DIVING NEWS—December 1961

best time of 1:10.7, by Charles McDowell and John Ward of the Washington Park Aquanauts. The tug-o-war was won by the High Ridge Aquanauts with a stout team made up of Ken Skoff, Russ Edwards and Ron Riesberg.

All Metro Chicago Y clubs are being asked to supply a copy of their club emblems to A.L. Anderson, care of Lawson YMCA.

Bill Hyde of the Washington Park Aquanauts has been successfully using a spool-reel of his own design, for towing float and flag. The accessory amounts to a clothes-line spool, scaled down to about 5-6 inches and has a slide handle.

Bill turned his spool out with a jig-saw, from a 1/2" ply, and uses 240-test line. Although the spool fully occupies one hand, Bill says it requires but a casual circulatory motion of the hand in either reeling out or in as one descends or rises. Making the holder of wood and coating with a yellow marine paint enables one to make a convenient marker of the device. Bill claims this line holder could be employed advantageously in certain search patterns.



KENTUCKY COUNCIL OF SKIN AND SCUBA DIVERS

By ED P. SULLIVAN JR.
4215 Dolphin Rd., Louisville 20, Ky.

Officers of the newly organized Kentucky Council Skin and Scuba Divers are:

President Ed. Sullivan, Piranha Diver's; Vice-President Don Dunlap, Bluegrass Scuba Club; Treasurer Frank Leezer, Piranha Diver's; and Secretary Jack Kloy, Kentuckiana Scuba Club. Members of the board of directors are: Raymond Young (chairman), Duke Haberer, Lloyd Risk and David Kling.

Diving has been fine. Fifteen members and eight guests of the Piranha Scuba Divers had their second annual picnic at Mitchell, Ind. Visibility was the best of the year.



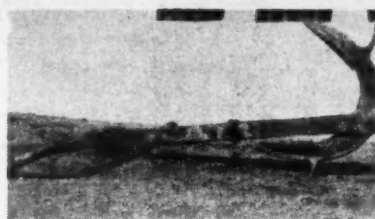
MIDWEST DIVING COUNCIL Inc.

By JUNE POPLAR
4937 Highland, Kansas City, Mo.

MIDWEST COUNCIL WOMEN WINNERS, was the news flashed from the First National Scuba Triathlon in New Orleans. Mel Lillis and June Poplar took top honors in the Women's Division and June won the Individual Championship.

CONVENTION, The Midwest Diving Council was represented by a total of 13 members and wives at the Underwater Society Convention this year, the largest group from any council. We wish to extend our congratulations to the new Society officers, and particularly to our own Mel Lillis who was elected secretary.

SPEARFISHING Council club activities this past season included spearfishing derbies and Triathlon contests by the Kansas City Frogman Club, Show-Me Divers of Joplin, Wichita Desert Divers, Bluegills and Scuba Divers Club of Oklahoma City, as well as the Midwest Council. The Tang Rangers also held a derby with merchandise prizes, and the St. Louis Area Association sponsored a treasure hunt and spearfishing contest with trophies and prizes.



Early 1800 British anchor was recovered from Lake Erie by members of two diving clubs.

Midwest Divers Discover Large Anchor in Lake Erie

By DR. CHARLES H. SCHIVLEY

Members of the Pittsburgh Channel Cats and the Ohio Aqua Ducks recovered a large anchor, weighing several tons, from the depths of Lake Erie off Conneaut, Ohio.

The anchor is believed to be from a British sailing vessel of the early 1800's. The anchor was discovered lying in 42 feet of water about three miles north northeast of Conneaut. It took from 10 a.m. until 4:30 p.m. to recover it and bring it into dock with the assistance of two fishing tugs. Measurements taken of the anchor showed it to be ten feet four inches on the shank, ten feet seven inches along the cross arms with the flukes measuring 55 inches across the curved tips.

Pennsylvania . . .

CHARTIERS VALLEY SCUBA DIVERS
REPORTER RUSSELL K. GOOD

Saturday August 26, the Chartiers Valley Scuba Divers held their second anniversary dinner at Roxy's restaurant in the South Hills area of Pittsburgh, Pa.

Guest speaker was Paul Sasko. His topic was on the safety aspect of diving and the use of personal lifesaving devices.

The new officers were installed at the dinner also, they are President Gene Taschetti, vice-president Pete Ketterer, secretary Dan Trainor, treasurer Russell Good, safety officer Joseph Pavlik.

CONGRATULATIONS, The Sooner State Divers won first place with their float in the Collinsville, Oklahoma Tri-County Fair Parade this year. Nine members of the Wichita Desert Divers received deputy sheriff badges for their assistance in several underwater recoveries. Three new clubs were welcomed, the Tulsa Divers Club of Tulsa, Oklahoma, Aqua Masters of St. Louis, and the Black River Swamp Angels of Poplar Bluff, Missouri.

AUTUMN ACTIVITIES, Charles Barger, vice-president in charge of Triathlon Competition, and his committee have been busy formulating rules and computing results to determine our 1962 teams to the Nationals. Alan Judkins and Ralph Poplar conducted the First Annual Instructors Cooperative Seminar in Oklahoma City November 4th, and the Bluegills hosted our Annual Fall Board of Directors meeting the following day.

A season brimming over with organized diving activities, trophies, prizes, national recognition, and several thousand miles on the highways has come to a close. Looking to the frigid months ahead we see ice dives, indoor training, social events and our Dive-O-Rama, culminating in the April Annual Meeting where diver of the year trophy will be presented by W.J. Voit Company, and the club achievement award will be given by Sealed Rubber Co.



CEN-CAL COUNCIL OF DIVING CLUBS

By MARIENE STRAWN

15558 Wicks Blvd., San Leandro, Cal.

The board of directors have voted to apply dues received after November 1 to the 1962 membership list. All Cen-Cal's dues are due January 1, along with the Underwater Society dues which are on a voluntary basis. 1961 Society membership was 95%, and President Oscar Asturias is seeking 100% for '62.

The monthly bulletin of Cen-Cal is limited to a circulation of approximately 200, which means only two copies are sent to each club. This bulletin is for each diver's benefit, and is expected to be read at club meetings and posted at local dive shops to help circulate up to date information.

Walt Kilion of the Deep Angels was selected as area VP of Area 3 which includes Alameda and Contra Costa counties. The next area to choose a vice-president will be the Sacramento Valley Area.

Divers with underwater specimen collecting and/or underwater photography interests are requested to send name, address and phone number to Dennis Sullivan, director of research, 660 Humbolt Road, Brisbane, Calif., to build up a mailing list for the Steinhart section. A meeting was to be held in November at the California Academy of Sciences to instruct members in techniques of collecting and preserving specimens.

Cen-Cal has accepted an insurance program as outlined by E.C. Becker. This plan has already been accepted by the Greater L.A. and San Diego councils. Benefits include \$1500 accidental death benefit, \$500 medical, and an equipment floater which pays the cost of replacement. Clubs will be contacted with details.

Harry Hague received honors and the title of Diver of the Year at the November Cen-Cal meeting. With all the time Harry spends in the water maintaining that 'top diver' status, one wonders how he manages to find time to be president of the large East Bay Barnacles Club, active in the Alameda County Underwater Sheriff Rescue Unit, and a shell collecting club, not to mention his wholehearted support to the council.

On the legislation scene, director Doug Collier reports a check for \$25. was sent from Cen-Cal to the ASC to help defray expenses incurred this year. He states that the Point Reyes National Seashore Foundation bill of which Cen-Cal is a sponsor, has passed the Senate and should pass through the House in '61.

Citing an example of the cooperation of the California Councils through the CCC is the Cen-Cal Inland Spearfishing program which was introduced at the Fish and Game Commission in Los Angeles by Ron Merker, president of the Greater L.A. Council.

ACTION AT PACIFIC GROVE BY OSCAR ASTURIAS

A council meeting was held in Pacific Grove to consider whether skin diving should be prohibited in the Pacific Grove area because of the repeated violations of regulations that prohibited the taking of marine life from this reserve. It was only because of the sincere effort of the Councilmen and officials of Pacific Grove to be as fair and democratic as possible that the organized skin divers were able to appear before the council and present their side of this problem. The Fish and Game Dept. was represented by Dan Miller who presented many facts about the large number of divers that



Winners of the annual Pioneer Skin Diving Club competition held at Point Lookout, Maryland, are (left to right standing) Skip Davis, Craig Ballenger, Bill Rollenhagen and Vic Sassmore. Club president Van Buskirk and vice-president James Roberson are in front.

use this area and the small amount of fish and other sea life taken by divers in the Monterey area as compared to the other types of fishing.

Organized divers were represented by President Oscar Asturias who pointed out that this action of complete disregard of rules and regulations was by a very few divers and not a policy of organized diving clubs, that Cen-Cal was completely unaware that this problem existed. Now we do know, we will do everything possible to prevent a continuation of this vandalism. We promised that we would cooperate with the officials and if we saw any taking of marine life in this marine refuge we would report same to proper officials. Cen-Cal agreed to use all its facilities to educate the diving world to the facts of the Pacific Grove Refuge. The local clubs have offered to help to replace marine life in the Marine Refuge if the Fish and Game Dept. biologists thought this a practical plan.

This is not a closed issue by any means. The action was to postpone action for a year and then review to see if further action is necessary.

Sample Constitutions Are Available From SDM

New clubs in the throes of organization can receive assistance from Skin Diver Magazine in setting up their basic foundations.

Sample constitutions and by-laws are available, free of charge, to any new group or any established group that wants to change its constitution.

Skin Diver has compiled this constitution and by-laws from various constitutions of the nation's most active and successful clubs.

ATLANTIC SKIN DIVING COUNCIL

By C. K. "RUSTY" SHERRILL
408 8th St. NW, Washington, D.C.

Congratulations to the newly elected officers of the Underwater Society of America. We in the Atlantic Skin Diving Council pledge our full support to the executive committee in the coming year.

We, the members of the Atlantic Skin Diving Council feel that 1962 will be our most productive year. Holding positions for the coming year are: C.K. (Rusty) Sherrill, chairman; Van Buskirk, president; John Stewart, Jr., vice-president; Ralph A. Myers, secretary; Carland Bean, treasurer; James Slater, director of safety; Mike Freeman, underwater recovery; Craig A. Ballenger, spearfishing competition; Carl W. Jones, scuba competition; Robert Hall, public information; Albert Jones, diver classification; Richard Thomas, conservation; Viola Bean, social activities; and Carter Cafritz, director of communications.

Just off the presses is Atlantic Skin Diving Council's third edition of the Club Organizational Guide which is available free of charge to interested clubs in the Council area. For a club copy drop a card to the Council.

A warm invitation is extended to clubs in the Maryland - Virginia area to participate in our activities. Complete information is available on request.

DIVING NEWS—December 1961

News Current

NEWS FROM AROUND THE GLOBE COMPILED AND EDITED IN SKIN DIVER OFFICES. Local diving news from readers welcomed.

IRELAND—Lucius E. Burch Jr., Memphis, Tenn., attorney, has returned from Ireland and a diving expedition to find the sunken ships of the Spanish Armada. He failed to find the *Gran Grin* and the bronze cannons cast by Benvenuto Cellini of Milan, Italy, he had hoped to find. But he did recover one iron cannon from an Armada ship. Most of the expedition's diving was off the northwest coast of Ireland, although during the last six weeks the divers worked off the Island of Mull, near the coast of Scotland where they discovered pieces of a Spanish galleon that sank in *Tober Mory* harbor. This wreck is reported to have been the pay ship of the Armada that sank 372 years ago. However, Burch after research doubts this is true.

FLORIDA KEYS—Atlanta diver Jack Faver witnessed a rare sight while searching for sunken ships off the Florida Keys. Faver noticed unusual activity and moved in closer to get a ringside seat of a fight between a porpoise and a shark. The shark, a twelve foot hammerhead, was getting the worst of the battle from its eight foot opponent. Faver watched the fight about twenty feet away until he was afraid of becoming one of the participants. Although he didn't see the end of the fight, he said the winner was undoubtedly the porpoise.

HICKSVILLE, LONG ISLAND, NEW YORK—A new underwater endurance record has been established by Robert Ingolia, a pre-medical student at Queens College. Ingolia in an attempt to remain submerged 168 hours, a full week, was pulled from his twelve foot tank after 147 hours 15 minutes. Although he didn't complete the week long underwater stay, he did break the record of 126 hours 31 minutes established by a trio of divers in Toronto. A spokesman for the North Shore Academy of Diving Sciences and Research, which backed the test, said that physiological and psychological data obtained from the experiment would be submitted to the Office of Naval Research in Washington.

OXFORD, MARYLAND—Chesapeake Bay's famed oysters some day may be harvested as a farm crop bred from scientifically selected parents and reared in corrals on inland salt-water farms. The scientists, staff of the Oxford Marine Biological Laboratory, will plant seed oysters early next summer and try to raise them as a commercially practical crop. About half of the labor of the scientists and field aids alike is spent "in the field"—on the waters of the Chesapeake Bay and under the surface studying the oyster and its way of life.

CHARLESTON, SOUTH CAROLINA—The U. S. Navy has released information on a portable sonar for its skin divers. Men of Explosive Ordnance Disposal Unit 2 have been using the twenty-two pound portable "eyes" for some time and with a great deal of success. The Navy divers use the units principally in the recovery of mines, missiles or aircraft. The instrument measures approximately 15 by 12 by 9 inches and is non-magnetic. Members of EODU-2 are also using new breathing equipment. Fifty-seven of the men of the unit are undergoing extensive operational training with the new gear which allows them to rebreathe their own air and enables them to achieve greater depths and remain there longer. The new gear is not a replacement for the standard scuba equipment they use, but will be used only on special jobs requiring the use of silent equipment and on deep dives of long duration. The time necessary to assure proper gas mixture at certain depths precludes everyday use of the rig.

SANTIAGO, CHILE—A ship that saw action in the United States Civil War and was later sunk in the bay of the Chilean port of Arica may be the object of a treasure hunt. Edwin Frugone, a retired Chilean naval officer, reports he is seeking government approval for an attempt to clear the mud-covered hull in search for a chest that is reputed to contain gold coins that were once destined as pay for members of Peruvian naval units. The ship was scuttled June 7, 1880, after Chilean forces stormed a nearby cape during the war between Chile, Bolivia and Peru.

GROTON, CONNECTICUT—A three-man submarine made of aluminum, which will be capable of descending nearly three miles, will be built under Navy auspices by the electric boat division of the General Dynamics Corporation at Groton. The submarine, to be known as the *Aluminaut*, will resemble a sperm whale in both size and shape. It will be operated by the Woods Hole Oceanographic Institution of Woods Hole, Mass., on behalf of the Office of Naval Research. While the *Aluminaut* will not match the record dive of the Trieste, it will make possible the direct exploration of 60 per cent of the ocean floor.

WILLIAMSPORT, PENNSYLVANIA—Two divers, E. A. Millhouse and Ned Neupauer, pulled a five inch rocket head from the Susquehanna River. They floated the shell to shore in a rubber raft and then transported it carefully to Millhouse's home. They plan to contact Army Reserve personnel to dispose of the projectile.

ATLANTIC CITY, NEW JERSEY—Len Miragliolo and Eddie Boyle of the Century Scuba Divers, recovered the body of a six-year-old girl from Patcong Creek the day after she tumbled off a small dock into the creek. The Century Scuba Divers volunteered, after dragging had failed. The divers, including Rocky Callahan and Joe Michaels, searched for two hours before the recovery was made in fifteen feet of water.

JERUSALEM—Remains of ancient Israelite settlement dating to King David's time three thousand years ago have been uncovered near the Ein Gev settlement on the eastern shore of the Sea of Galilee. The discovery was made about 150 yards from the shore and holds promise of yielding a treasure of religious artifacts and other relics.

BALBOA, CANAL ZONE—Tony Mann, Duane Perkins and Beverly Creel, members of the El Panama Skin Diving Club's emergency diving team, responded to a police call for assistance in recovering the body of a drowned Panamanian from Caimito Lake. The victim, a civilian employee of the U. S. Army, had been driving a half ton pick-up which apparently skidded out of control along the rain-drenched Gaillard Highway and plunged into about 25 feet of water from the 10 foot embankment. The divers located and recovered the body in murky near-dark water and later dived to help recover the truck.

VALPARAISO, INDIANA—Three members of the Midwest Aquatiers discovered a type of fresh water jelly fish in a quarry a half mile south of Monon. The divers, Dave Johnston, Bill Liggett, and Joe Such Jr., captured six of the creatures for identification by the University biology lab technicians in Valparaiso. Dr. Krekeler and Dr. Hanson identified them as fresh water jelly fish, a rarity for local waters.

FIJI ISLAND—Eight persons, including three airline stewardesses, spent a harrowing 12 hours clinging to a capsized sailboat in the shark-infested waters of the Fiji Islands. The group had set out from Nandi for a day of skin diving. Toward the end of the day their sloop was hit by a gust of wind and capsized and although all of the group had been trained in survival techniques, they had no flares or life rafts. One of the girls couldn't swim. To keep from being separated during the long night, two of the men dived into the submerged cabin and retrieved enough rope to tie the party to the still buoyant side of the boat. At noon the next day with no rescue in sight, they decided to swim the five miles to the island of Mala Mala. They made a float of an empty gas can, a plastic water container and an ice chest and towed the girls toward the island. They were within sight of shore when two blackfin sharks suddenly appeared. One of the men who had held onto his spear-gun shot the larger shark and managed to frighten the other away. They finally made land and were spotted at dusk by a private

(Continued on Page 62)

DRIFTWOOD

Please address all notes, letters and stuff to:

"DRIFTWOOD"
Skin Diver Magazine
Lynwood, California

"Let's dance and sing and make good cheer, For Christmas comes but once a year."

—G. MacFarren

*Hello, you rowdies,
Yeesh, when that character in the business suit snuck out here last Thanksgiving with a catalogue under his arm and tried to hang tinsel on that far rock, he warned me the time was coming. Now it is upon us once again. But forewarned, somebody once said, is forearmed, and I'm ready. You find a comfortable rock or a soft plank and relax while I spice the java with something a little stronger than sugar plums. The tree is weatherbeaten and the baubles speckled with rust, but while I'm busy you characters might take a moment to reflect on the original meaning of this season before the commercial boys got hold of it.*

And wipe those sly smirks off your faces. Those ill-hidden, ribbon be-decked packets you're trying to hide won't buy a thing out here. I appreciate it and all that, but it's sexy dolls that cut the ice with me. And raise your heads and speak up, you don't have to be ashamed to be seen out here.

I've been reading your Driftwood for a short time and I think it's a pile of crap. I don't mind a few corny answers, but some of the answers you give to some people sets me to wondering what you got for brains. I think that the SDM staff is wasting two good pages.

FRED REINELL
Seattle, Wash.

Thank you, brother. That's the real Christmas spirit.

I'm surprised at you. In October Driftwood I saw a letter from a Mrs. Schreiber . . . and I was shocked. There was six punctuation errors and a grammatical error in it! Here are them. There should have been a period after Remarks . . . and her second sentence should have gone like this. "My husband and I came from Germany five years ago with our children." A comma, should have been placed after, the word, sport and another after day. The punctuation was terrible. Lukkiesh dididid spel anithynge rong or Eye wood ave kumplayned abought the two. Maibee she hasunt learnt the Inglishie laingwage verree whel yet, bught you could have, at least, correckted urr mistakes . . . Right?

JOHN GOLKA
Brockton, Mass.

Write!

THE CONKLIN REPORT

Gloom lies heavy upon the 7 $\frac{1}{4}$ th divers today. Firstly and worstly, we have discovered that the girl whom we would most like to go diving with (duly elected) if we ever decide to go diving, is no girl. We are trying to decipher the writing on the entry slip so we can find out if the nominator can swim with a tankful of cement.

And we have lost another Dive Master. This guy just got decorated for a rescue at the Bide-A-Wee Turkish Bath, too. As you know, we eighthers deplore the situation that exists between divers and surfers and would like to be friends with some surfers . . . or at least some surfettes. That's where the trouble started. We hit upon a way to combine the two sports. We put fin clips on the bottom of a surfboard. You paddle out with your board and tank, catch a wave, slip your fins into the clips, stand up . . . or down . . . and come roaring in, underneath. If you're near Malibu Cove and you look out to sea in a southerly direction, about a hundred yards from shore you'll see a surfboard shaped sign, DANGER, SAND BAR, supported by two hairy poles sticking out of the water. Wave, won't you? Ollie was a good Dive Master who just couldn't stay away from water. A final note of cheer; did you know that a 70 minute tank will hold seven fifths? That's a lot of diving . . . or something.

R. C. CONKLIN
7 $\frac{1}{4}$ Divers

What does "frent" mean?

M. S. OFFER JR.
Hope, B.C., Canada

You know, like you either are one or you aren't, and either way, you're welcome out here.

I just read Father Sepsi's letter and I second the motion to make him jetty Chaplain. I'm sure we need one. Also, I want you to know that I agree with you on everything except this diving with girls. I can see certain advantages, can't you?

RUSTY MASEINGILL
Sarasota, Florida

Watch your tongue, some kids might be hiding among the rocks. You're gonna have to make up your mind one way or the other . . . do you want Chaplain Sepsi or do you want girls?

My husband has read some of the letters in the September SDM, among them the ones Mr. and Mrs. Barclay wrote. I felt the same as she once did. My husband went into diving anyhow, now I can hardly wait to get into it myself. Every man's home is his castle, and he should wear the pants . . . even the wet suit pants. Just so he uses his head at all times and keeps calm for his wife and family.

MRS. LEWIS REIDT
Spokane, Washington

That's all well and good, Sweets, but I noticed that part you brushed over about "hardly wait to get into it myself."

Every so often I drag out my back copies of SDM and get hysterical all over again reading Driftwood. Mainly, I get hysterical counting up how much good time I wasted on your trash.

GILBERT AJA
Monterey Park, Calif.

And every month a few of you creeps manage to con your way out here. But why waste your time? There's a newsstand in Monterey Park that has a terrific comic book section.

DEPARTMENT TO KEEP TEENAGERS, TEENAGERS

I've read your column for about three years now and I think it's great except, being a teenager, I can't take any more. I'm finally going to invade your wacky world and stick up for teenagers who are divers. I've been diving with members of the older generation and sometimes I would rather be in the water with some of your "dejected monsters." One of these times you should leave your cold, desolate jetty and intermingle with us, and you'll find that all teenagers aren't as bad as they're made out to be. I'm 17 and I've been diving for about five years now. I hope this doesn't make you mad because someday I hope to intermingle with all you old decrepit sea urchins drinking urchin glop and talking star mops.

NICK LORENTZ
Lomita, Calif.

Make me mad? I see it this way, kid. If you work hard, study diligently, pay attention and mark the words of your elders, in about four years you may learn that we don't drink urchin glop.

The October Driftwood (as many preceeding it) appeared as if it was being edited by Ann Landers. It was interesting to note that four letters were from nervous, obviously frustrated, females. One had a problem . . . nineteen years old, etc., etc. and MY MEASUREMENTS ARE 37-23-36 $\frac{1}{2}$. This is a problem? (unless, of course, her height is 4' 2 $\frac{1}{4}$ ".) Advise this lonely lass to come to California and the BE KIND TO LONELY GIRL DIVERS ASSOCIATION will see to here every need, including gainful employment. Where was her photo if she's the raving beauty she claims to be? Then there was the lonely beachcomber . . . ekkkk retch . . . if the coast is loaded with "a real lot of nogoods" she hasn't been careful of the company she keeps. Anyway, what is a "real nogood"? And then, who in their right mind would want to "swing under the sea-surge" with YOU? As for the gal who wanted to know where are all the female divers, she wants a male companion so bad it shines right through the type. Either this is the case or Freud should study her.

DON MORRISON, B.Sc.
The Pilgrim of
Palos Verdes, Calif.

P.S. Incidentally, it was a little girl diver named Michelle Dawn and she checked in at 9:18 p.m. on September 2. She won't be writing any letters to Driftwood since I plan to educate her to be on the lookout for aging lechers.

OK, Morrison, you've had your say . . . and you, a father, too. It figures you'd organize a BKLGD Association, but it does seem like if you're going to go the club route you would at least send me a list of your members so that I might . . . er . . . talk over bylaws or something.

I can't see why you waste space in your otherwise terrific column printing mail which criticises you, your opinions, and Driftwood. If your other readers (all five of them) get so bugged at Driftwood, why do they read it?

DEAN NIXON
Toronto, Canada

I do it because I'm full of the Christmas spirit and I'm not mad at anybody, even the stupid ones. But hold on a minute, frent. Somebody just took my spiked java away and I'm asking you what you meant by the that "five readers" crack?



MEET MISS DECEMBER

Olney picked this one as the one he'd most like to wake up Christmas morning . . . or something. You might argue with his rather conventional tastes in sport cars and stereo, leching and editorializing, but you can't knock his taste in one hundred per cent, real, all girl. She's Julie Glogoufian and she was snapped on Sunset Beach south of Los Angeles. The Divers Flag she's reclining on is, she guarantees us, only to keep her fair skin from being sandpapered and nothing more. Unfortunately, I hear she's already acquainted with Gaffney, which puts two strikes against the rest of us . . . but if she should happen to blunder out here on the jetty . . . and Father Sepsis's out making house calls on you neurotics . . .

So keep 'em coming. We'll need something to warm January with.

I heartily refute and object to your attack on togetherness through the medium of diving. If you will consider my situation I think you'll be forced to backtrack. The girl with whom I dive is trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, and beautiful . . . and her dad owns the local diving shop.

MIKE FITZSIMONS
Shreveport, Louisiana

On my honor, I will do my best. Oh, and by the way, I didn't catch her name.

DEPARTMENT OF MACK MURPHY VS. ENGLAND

Speaking as a Limey, I feel I must offer to kick Mr. Mack Murphy's undoubtedly rotted teeth down his bigoted throat. You Yank armchair divers should try a spot of really tough swimming and try around Great Britain. Apart from the sissy stuff like warm clear water, what do you have that we want? We manage quite well around here with basking sharks up to 30 feet, conger eels up to 12 feet long and 160 pounds (and believe me, them babies would eat morays for a snack) We also have knocking around British lobsters which I believe your Maine lobsters were modeled after and crabs the size of coffee tables . . . and brother, they can take off your hand neater than a meat-axe. So in short, Mr. Murphy, you can keep your America and us poor stuffed shirts will make do with our shoddy equipment, the excess of which we export to you, and our tiny sharks. As far as me and my friends are concerned, you can go squat on a sea-urchin . . . one of the giant, British ones.

BRIAN WARD
London, England

Duck Murphy, the British are coming.

One reason for this letter is to reply to that bum, Mack Murphy. In this part of England where I live, are stationed a lot of Americans at different Air Bases, and even they think you are the lowest of the low. I'd guess that the deepest you have ever been into the water is up to your knees, and that you haven't got the guts to go any further. I suggest you have a look at the war record of our frogmen in the Mediterranean who, with the US Navy UDT, did a great job.

PETER J. GILLON
Essex, England

Murphy, it looks to me like you're standing there in front of everybody with a sticky wicket.

Thank Heavens the U. S. isn't full of Mack Murphys. As a diver he probably uses the chip on his shoulder as a weight belt. I do come out fighting when some hop-head is conceited enough to condemn several thousand British skin divers as "less than nothing type water heroes" on the mere strength of "several visits" to Great Britain. If, on your next visit Murphy, to our "real nothing country," you care to live a little, bring your gear round. I have a paddling pool just about your size.

R. LARN
Hampshire, England

Murphy, you've fired the shot heard round the world.

Oops, that did it! In amongst the light hearted repartee steps Mack Murphy with his blaster. What happened? Did someone declare war or something? I thumbed back an issue to find out. There I found a plaintive little letter from a William Ingels in London begging earnestly for big men like Mack to wise him up on the important issues of skin diving "stead of making with the hot air. What does he get? Helping-hand-from-big-brother-type-stuff? Does he? Didn't that spate of mortido sound to you just like Murphy got passed up by a girl in England. And all those generalizations about Limeys, Well, don't just stand there! With two beautiful oceans lapping two sides of that beautiful continent we discovered for you, you ought to be tops. Ever tried spearing animal crackers in mud soup? Well, it's a whole lot easier than seeing a hand in front of your face in the water around our shores. And a whole lot warmer, too. So if our guys aren't so good as Mack thinks he is, he should act big, not mean. I mean. Incidentally, ask him if he ever hand speared anything weighing eight tons. I was in a rowboat sure, and had six guys to help me. But, this is the point . . . When we winched that sperm whale up the slipway I wisd up on something Mack might bend an ear to. That the very biggest things have quite little mouths.

JOHN KRUSE
Guildford, England

Far be it from me to put the knock on another writer. (Alone in Shark Waters, Duel in the Sea, Lord of the Deep, SDM) I think I'll just sit out here and wait to see if Murphy strikes back . . . or folds his tent and with head hanging steals away into the setting sun. And that's west, brother, away from merry England.

DEPARTMENT TO PUT DOWN CLUBS

I know how you feel about legislation and clubs for the grand sport of skin diving. I say all power to your convictions. In a recent contest sponsored by a leading association, yours truly was a registered contestant. Due to college expenses I decided not to attend. I phoned the president of this "esteemed" group and informed him of my intentions, specifically asking him whether or not my entrance fees would be refunded. This is necessary since there had been no provision made for such a case in the information sheets that went along with the entrance blanks. To make a long story short, this "gentleman" informed me that my money would be refunder after the contest was over. With this in mind I did not attend. I guess you can imagine the rest . . . old honest, reliable Joe President just reversed his decision. Why? It seems several checks, not mine though darn it, bounced and because of the bungling, incompetence of the contest committee the association ended up in the red. The money isn't much but in college every little bit counts and I don't feel like paying for other's mistakes. Keep knocking those organizations and the jerks who run them and you will always have at least one faithful fan.

JAMES H. SPOONTS
Hollywood, Florida

Well, it's like I've always said . . .

I used to buy Skin Diver Magazine just to read your trash. The only trouble now is that the rest of the magazine has become so interesting you come in last on my required reading list.

JIM LAFARGE
Port Washington

You work and you slave, you give advice to make something better and better . . . and what happens?

Last month, after most of you had hurried back to the more conventional world, a couple of neurotic types came creeping back. They worried, this time about how I occupy myself out here lonely and alone, between visits of the colorful crew. Well, when I'm not leching through old photos of sexy dolls, or watching normal types back there on the beach, I read. Like I just finished an interesting health article, what with the current health kick going on. "Flouridation Really Prevents Tooth Decay . . . Unfortunately" it was called, reprinted from The American Dentist. Another I have scheduled when I feel the urge for more learning is "How I Licked Those Nagging Headaches" by Marie Antoinette. So I keep busy, but I'd appreciate a fleeting thought if you can spare it . . . especially on the coming night of good cheer, when the jolly gent in the red suit is king. See you next year. Vaya con Dios.

KELPIE



Junior . . .

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FIN FANS

by JEAN DOWD

(Would you like a diving Pen Pal? Send in your name, age and address and we'll print it in the Junior Fin Fans column. Write to: Junior Fin Fans Underwater Mailbox, c/o Skin Diver Magazine, Lynwood, California.)

"SANI BONA bo maphethwane aban-scane." (Hello, young skin divers.) Anyone interested in African "big game hunting?" Young Crystal Lighton of Durban, South Africa, has joined in many exciting safaris of the sea. Crystal, who is a secretary in Durban and whose real home is in Connecticut, often dives with friends along the south coast although the conditions here are certainly less than ideal.

Very little scuba equipment is used since the cost is prohibitive and compressed air stations are few and far between. Another difficulty is encountered in getting equipment through the heavy surf. In time to come, no doubt, greater use will be made of surf skis, which will enable the heavily laden diver to reach calm water without the necessity of swimming out through the pounding surf. At present, most scuba diving takes place in fresh water dams and diving clubs are quite popular in large cities in the interior regions. Divers whose homes are situated nearer the coast, concentrate more on spearfishing which requires a minimum amount of heavy gear.

There are a large number of diving spots within a hundred mile range of the Port of Durban, but the clarity of the water cannot always be guaranteed and frequently the diving enthusiast must be satisfied with a visibility of 15 to 30 feet, not desirable in

this area which has a record of some of the worst shark attacks in the world. There have been no fatalities to date involving skin divers and shark but, inevitably, they must occur although the "buddy system" should afford a certain amount of protection.

The average water temperature ranges between 60 and 80 degrees and little use is made of the dry suit. The short wet suit has become popular, however, and is used during the colder winter months.

Skin diving in South Africa has just recently become a popular sport, but the native Bantu people of this country have not yet taken to this idea in any way. Unlike their cousins north of the equator, the local native has never been a great fish eater. In ancient times, however, the now extinct tribes known as the "strandloopers" used sea foods as their staple diet. The vast majority of the native population cannot swim and shows no inclination toward any aquatic sport. Fishing for them is restricted principally to the use of rod and line. For economic reasons, some of the native women have found it profitable to dive for the spiny lobster, but their activity is limited to the tidal area where the reefs are exposed at low tide.

One experience illustrates how little swimming is done by the natives. Crystal

and friends had gone on a diving trip on the Pondoland coast, a wild strip of coastline south of Durban and lying within the borders of Cape Province. They had decided to swim about 60 yards out to a projecting rock line to find better diving. The water was very cold so they clambered out on the rocks to sun themselves for a few minutes. They were spotted by an old African gentleman who had come to watch his goats feeding on a nearby hillside. Seeing human beings on this rock was a little too much for him and he remarked to a member of the party who had remained on the beach that this was the first time he had seen anything but birds perched on that rock.

The real Mecca of divers lies north of Durban along the Zululand coast and up into Portuguese East Africa. Some remarkable catches have been made in this area, but because of increased water temperature, shark are numerous and poisonous fish are found among the exotic coral. Crystal reports that the Chicken fish (*Pterois volitans*) is easy to spot because of its brilliant color. It is believed that it is not the poison of the Chicken fish that kills, but the ensuing violent pain. The deadly Stone fish is another matter entirely. It tends to mottle itself with the surrounding coral and is difficult to notice underwater. Crystal was taught to wave her hand gently over rocky formations so as to scare or cause movement which would reveal the fish. No one foolishly steps on or brushes against a rock without first taking this precaution.

Other marine life is less hazardous in this area. The sting of the red sponge can be painful while the Portuguese Man-O-War and Jellyfish, brought in by the East winds, can be distinctly uncomfortable unless some form of protective covering is worn by the diver.

On one diving expedition to Portuguese East Africa, the group was diving at the Island of Margaruque. Margaruque lies on the outside of a vast tidal area enclosed by a Paternoster form of islands, comprising Bazaruto, Benguera, Margaruque and Snake Islands. On the inland side of Margaruque the reef is in the form of a sandstone formation about two miles long. As the tide recedes, the water covering the sandbars is drawn off and funnelled into a deep channel running down this side of the island. It is well populated with Brindle Bass of considerable size, comparable to the Jew fish, the spearfisherman's most prized trophy. They found that the best way to fish the area was to enter the water at one end and allow the current to carry one along. Usually, the fish were lying along the bottom facing the current. On one occasion,



Ross Blomey with a 98 pound Rock Cod, taken off the Island of Bazaruto on the Portuguese East African Coast.



The women and children are glad to show off their part of the day's catch taken along the East African Coast.



Crystal Lighton finds diving in South Africa exciting and, at times, hazardous. Crystal is a secretary in Durban.

these divers were returning with the incoming tide. One member who was well ahead elected himself to dive to the bottom to see if any of the large bass were about. Unfortunately, the visibility was about 10 feet. His flippers disappeared and in a matter of second he surfaced with his eyes almost popping out of his head.

He had reached the bottom, allowing the tide to drag him forward to conserve energy. He saw a rather large boulder ahead and lazily started to drift above it. He was scarcely two feet away when he realized it was a Brindle Bass, weighing somewhere in the region of 500 pounds, with its huge mouth wide open and waiting for what the tide might drag in. Of course, after the story had been related on the surface, it seemed extremely funny to everyone else that the hunter was nearly swallowed by his prey. After that, great care was taken to ensure that all rocks were solid formations before approaching too close.

It is obvious that Crystal is a courageous and adventuresome young woman as well as a dedicated diver. She is especially interested in archaeology and believes that, in due time, there may be many important finds in East Africa. Since Vasco de Gama first rounded the Cape, the Natal Coasts must have seen many passing ships and

conversely there must have been many wrecks but, with the heavy surf along South Africa and strong currents, there has been a rapid deterioration with the result that any wreck has entirely disappeared.

The most famous wreck of ancient times was perhaps that of the "Grosvenor" which, returning from India with a fabulous cargo of jewels, was wrecked somewhere off the wild Transkei coast north of Port St. John's. (St. John's is about 150 miles south of Durban.) Although fortunes have been spent searching for this particular wreck, no trace has been found of the ship itself, even though from time to time, stones and other evidence are disgorged by the sea, which gives credence to its disappearance and value.

The sea further north, among the islands of the Mozambique Channel (across from Madagascar) may provide a far richer harvest in wrecks and have not been investigated. In any event, the records of any wrecks in this area are hazy. Someday, when communications and transportation improve and the coast develops, it will be possible to reach the now inaccessible spots where these wrecks lie and some lucky diver will find them. Will he, by any chance, be you?

"Salani kahle sobuya sibonane." (Good-bye, till we meet again!)

TO ALL OF OUR READERS

We, the Publishers of Skin Diver Magazine, sincerely hope you have enjoyed the world's only exclusive underwater publication these past months. We have certainly enjoyed producing it for you. This December will begin our eleventh consecutive year of publishing Skin Diver Magazine and there is still so much to tell about new underwater equipment, better diving techniques, safety hints and new places to explore underwater.

The thing that is most hard to believe is this . . . many, many skin divers have actually never heard of Skin Diver Magazine. If they are to continue in the sport, to maintain its standing as the world's fastest growing recreation, *they should be well informed.*

Christmas is an ideal time to send a gift that has your lasting blessing . . . 12 issues, 12 months, a full year of fine, informative, exciting reading.

Give Skin Diver Magazine this Christmas.

Handy subscription blanks are enclosed in this issue.

Holiday greetings to you from the publishers and staff of Skin Diver Magazine.



BE A REGISTERED JUNIOR DIVER JOIN THE NEW JUNIOR FIN FANS CLUB

By forming this new club for juniors, Skin Diver Magazine has created a news center for young divers to promote safety, answer questions, provide recognition and exchange ideas.

The membership fee of \$1.00 includes a notebook for your special diving information, the club decal and personal membership card. In return, you must agree to follow the safety rules listed on the back of your card.

Help us make a big splash for juniors everywhere! Join Junior Fin Fans Club today.

Be sure to include: your name, age, address, birthdate and a check or money order for \$1.00.

OPERATION

SWIFTLY the big Packard lumbered down the rutted dirt road to the launching area. The boat trailing behind rocked back and forth as the wheels of the trailer would dip into a hole and then be pulled violently out. On reaching the launching area two strangely clad individuals sprang from the car and disconnected the trailer, pushing it into the water.

At this moment two more cars made their appearance on the scene. Immediately upon stopping, three other individuals jumped from the cars and rapidly proceeded to enter the boat. With four men aboard, the boat was launched from the trailer. As it moved silently away up river, two men pushed the trailer into deeper water until it was completely submerged. After "burying" the trailer these two men slid silently off into the water heading down river. Simultaneous with this action was the departure of all three vehicles from the area.

Eight minutes after the first car arrived the area was completely deserted. The only evidence of their presence was the dim outline of tire tracks in the newly fallen snow.

It was Sunday morning. The time was 1:20 a.m. Part One of "OPERATION BOTTLENECK" had begun.

Seven weeks before a group of divers sat around discussing their various skin diving experiences (as divers frequently do) when the idea for "something different" in a diving adventure was suggested. The idea was to slip into the water across from Boston Naval Shipyard and, after a short swim, plant magnetized metal discs against the hulls of a few ships. The purpose being the excitement generated at the thought of the possibility of being detected and the extreme caution and care that would have to be exercised to avoid such detection. This idea was dropped however, due to the risk involved in swimming across this channel which is regularly patrolled by Boston Harbor Police and the U.S. Coast Guard.

Another suggestion was to simulate a "frogman assault" on the City of Boston, Massachusetts, by planting simulated "bombs" on the numerous bridges that connect Boston with the north and west. After quick reference to a road map we agreed that the "destruction" of just nine bridges between Boston and Cambridge would, in all probability, completely isolate Boston from points north. And besides this, all nine bridges were located across the long winding Charles River that runs over 10 miles to the sea. It was agreed that this should indeed prove to be "something different" in the way of diving adventures. We settled on the code name of "Operation Bottleneck" when referring to this dive.

The first thing we did was to handpick five good divers for the actual planting itself and four handlers to pilot the cars and boat and assist the divers when needed.

Two top divers were chosen from the South Shore Neptunes, Inc., Fred Calhoun and Russ Gore. The other three were chosen from the Bay State Aqua Club, Inc., Bruce Crossman, Bucky Taylor and myself. The divers unanimously approved the selection of Wayne Comeau, "Babe" Comeau, "Rocky" Silva and John Russell (all from the Bay State Aqua Club, Inc.) to serve as handlers.

The next step in the plan was to select the proper time and date. Since the secret of a successful operation lay in *not* being detected, it would be necessary to conduct this operation under cover of the most adverse weather conditions possible. This would insure us that very few people would be out "strolling" the banks of the river on the night scheduled for the undertaking. This would include diving at night, a risky business even under the best of conditions. We selected the tentative dates of December 5th, 6th, and 7th which allowed us plenty of time for practice.

Our first practice dive took place in the Upper Mystic Lake in Winchester, Mass. We rendezvoused at a diner in Cambridge where we donned our suits before leaving for the diving area. Included in our gear were mask, fins, snorkel, wet suit, dry suit, underwater lights and a boat.

On reaching the launching area of the lake (a short stretch of beach commonly used as a lovers' lane at this time of year) we rapidly proceeded to launch the boat. Bucky pushed it away from shore and we hauled him over the gunwale as we "kicked" the motor into forward. The handlers were to give us an hour to return. As soon as they heard the motor of our boat they were to blink their headlights so that we could locate the beach in the dark.

The dive itself consisted of swimming from the boat to a boathouse barely visible about 250 yards away. The lake was quiet and smooth, but also cold. There was a full moon overhead which didn't help much for concealment.

We swam to the boathouse, rested awhile, then swam back to the last place we saw the boat. To our consternation the boat wasn't there. We strained our eyes looking into the darkness for its vague silhouette. After ten minutes or more of signaling with our lights we received an answering signal a good 100 yards back towards the boathouse. We swam to the boat, and on climbing aboard, we were told that the boat had drifted steadily since we left. We were glad we caught it when we did. About 50 yards away in the direction of the drift we could hear the low rumble of the falls that separate the Mystic Lakes from one another.

Upon arriving back at the launching site we hove to

By GERALD F. COMEAU

BOTTLE-NECK

off shore waiting for the signal. It came. About ten yards from shore I hopped into the water and began pulling the boat ashore. When we beached it we were immediately surrounded by police and five squad cars had their lights on illuminating the entire area. It seems that during our launching we were being watched by a couple parked off in the distance. When they saw us acting so suspiciously and then haul a "dead body" into the boat they notified the police. After some tall explaining about the "dead body" being Bucky and a thorough search of all our gear, cars and boat we were permitted to leave with a stern warning to stay out of the lakes. This incident nearly caused us to give up the whole idea.

One week later found us in the Charles River swimming to one of our prospective targets, the Massachusetts Avenue Bridge. The purpose of the swim was to determine our endurance since the bridge was located approximately a half a mile from our point of entry into the river. Also, the greater distance of the swim was along the base of a high seawall which afforded considerable protection from accidental detection. We arrived back at the starting point cold and tired, but satisfied that "Operation Bottleneck" could be done.

The next two weeks we spent practicing drops and pickups from Bucky's boat. Babe displayed considerable boatsmanship and removed any doubts that he could match the situations we might encounter during the actual operation.

About this time we became increasingly aware of the change in general weather conditions. It was getting much colder and hardly a day passed without a stiff wind blowing. I informed the team members that the "real thing" may be only a short time away. We would make the dive on the first cold, windy and miserable evening that arrived on a weekend.

We kept constant check with the U.S. Weather Bureau at Logan International Airport in Boston. They predicted a cold spell that should arrive in the northeastern area of New England sometime during the last week of November. I informed all team members to keep in constant telephone contact with me during that weekend.

As the time drew near we contacted our friend George Spartichino (lawyer, skin diver, member of the House of Representatives and member of the Northeast Cine Divers) for legal advice. He informed us that we could not be legally held by the authorities (if we should be apprehended in the water) unless we deface the bridges with our simulated charges. It was agreed that we should use a common lead weight as used on our weightbelts and attach a short line to it. On the other end of the line we would fasten a white piece of cloth to mark the position

of the "charge." George advised us to be careful and wished us luck. He also stated that should we be detained for any reason we were to call him at once regardless of the hour. This certainly took a big load off our shoulders.

Finally, I telephoned Bucky and told him to keep his boat in constant readiness.

On Friday evening, November 28th, I called the weather bureau and learned that bad weather was brewing for Saturday evening the 29th. Word was sent out to the team to call my number every two hours starting Saturday noon. If the weather held its present course it would be over eastern Massachusetts early Saturday evening. At 6:35 p.m. that evening I decided to go ahead with our plans. All members were instructed to meet at the Bay State Aqua Club's headquarters at 10:00 p.m.

By 11:00 p.m. everyone was present. We all spent the next hour studying the chart of the Charles River and going over our individual assignments again and again. Each diver had to memorize his part of the overall operation. The bridges were assigned as follows:

ELIOT BRIDGE, Bucky Talor; LARZ ANDERSON BRIDGE & RIVER STREET BRIDGE, Bruce Crossman; WESTERN AVENUE BRIDGE & MASSACHUSETTS AVENUE BRIDGE, Russ Gore; JOHN WEEKS FOOTBRIDGE, Russ Gore; COTTAGE FARM BRIDGE, COTTAGE FARM RAILROAD TRESTLE & LONGFELLOW BRIDGE, Fred Calhoun and Jerry Comeau.

Babe Comeau would, of course, pilot the boat. Wayne Comeau, Rocky Silva and John Russell would drive the cars to and from the point of entry.

We went over the schedule once more. Upon arriving at the entry site the boat would be launched and the trailer buried underwater. The other divers would arrive in a second car and board the boat. This would be Babe, Bucky, Russ, and Bruce. After the boat had moved away up river, Cal and I were to swim the short distance to our first objective, the Cottage Farm Bridge. After Bucky, Russ, and Bruce had finished their first "planting" job, they were to be picked up by the boat and dropped off at their second target, with the exception of Bucky who would remain in the boat to assist in hauling the others aboard. While they were busy at their second targets the boat was to pick up Cal and myself and move us down the longest stretch of river to our second targets. It would then return up river to retrieve the other divers then return for us. The two cars were to return to the point of entry after we had been in the water 1 hour and 15 minutes.

At midnight we began "suing up." Russ, Bruce, and myself were wearing one-eighth wet suits under a dry suit. Cal was wearing a wet suit and the top half of a "Pêche" suit. Bucky was wearing a dry suit over various woolen

(Continued on Next Page)

BOTTLENECK

(Continued from Last Page)

undergarments which included the brightest set of long red underwear we have ever seen. All were wearing foam neoprene mitts except me. I had intended to purchase a 3/16ths kit that week but in the end I decided that the pair of cloth mitts coated with non-porous rubber that got me through the summer might be sufficient for this dive. Later I was to sorely regret not having purchased that 3/16ths kit.

At about this time one of the fellows looked out the window and discovered that it was snowing heavily and that the wind was whipping the snow about the building in fierce gusts. The roads were literally sheets of ice, and the temperature had dropped to 22 degrees. At this time I thought the conditions were ideal for our project.

At 12:35 a.m. Sunday morning John Russell, Babe Comeau, Bucky Taylor, and myself left the clubhouse. We were pulling the trailer along gently due to the severe ice conditions. The normally 15 minute ride took us 35 minutes. The rest of the divers were to leave five minutes after us. This would avoid people standing around waiting for the boat to be launched. This indeed must have been a strange sight, a carload of people towing along a runabout in the middle of a snowstorm in the early hours of the morning.

After successfully launching the boat, Cal and I pushed off in the direction of the Cottage Farm Bridge. It took us about five minutes to swim down to the bridge from our entry site. By this time my right boot was filled with ice water from a rip I made while launching the boat.

Upon arriving at the bridge we discovered that it would be impossible for us to throw our weighted "charges" onto the ledge as it was over 20 feet above our heads. Consequently we were forced to swim to the Boston side of the bridge and climb out onto the bank. As the bank was approximately 70 feet below the roadway we had no fear of being detected. After a few attempts and an equal number of misses we succeeded in landing a "charge" on the ledge and directly beneath the anchor bolt. We then climbed back down into the water and swam to the Cambridge shore. Here we again left the water and climbed up the side of a slight hill to the roadbed of the railroad trestle. We placed our next "charge" just under the anchor bolt and returned to the water. We then swam out to one of the columns of the bridge and remained there by treading water. By our calculations the boat should be back to pick us up within the next five minutes (if everything went well).

Meanwhile, upriver, Babe had reached the most distant bridge and swung the boat around to head down river for the "drop" run. He dropped Bucky at the Eliot Bridge and Bruce at the Larz Anderson Bridge.

The boat was halted momentarily beneath the John Weeks Foot Bridge while Russ attempted to swing a "charge" around the support for the bridge lights while standing on the deck of the boat. When he missed the support and lost the "charge" in the water he decided to pass this one by rather than waste time with men already in the water. (As it turned out this was a wise decision.) About 500 yards down river Russ was dropped over the side under the Western Avenue Bridge. At this point Babe headed back to the Eliot Bridge to pick up Bucky and return for his "pick-up" run for Russ and Bruce.

Cal and I waited anxiously for the boat to return. We had to tread vigorously to keep up against the leeward side of the column we were hiding behind. If we drifted out from it the slight current in the river would begin to carry us away.

Slowly the minutes dragged by. First five minutes,

then ten, then 20. Now the worrying began. "Where was Babe?" "Had something gone wrong?" "Was somebody injured?" "Were they spotted and pulled from the water?" "Where in heck is that boat, I'm freezing to death?"

Now we began to tread water faster. Not to stay in place but to keep warm.

Cal suggested that we start swimming across the river to the Boston side to work up some body heat—if we had any left. I readily agreed. We stopped just short of the bank behind another column and decided to wait for the boat there. We were not any warmer than we were when we started.

At this point I noticed or rather became aware of the fact that the water seeping into my suit had now reached my chest. This I couldn't figure out. Surely it hadn't all come in through the tear in my boot. (Later, at the clubhouse, one of the fellows noticed that my dry suit had five tears in it, some of them six inches long. The only explanation for this was that the suit must have been torn by the constant riding up and down against the cement columns while waiting for the boat.)

We had been in the water a good 30 minutes when Cal made out a dim light heading for us. It was the boat at last. Never were we so pleased to see anything in our lives. As Babe spotted us he pointed us out to Bucky who then swung the boarding ladder over the side. As we climbed the ladder one at a time, Russ pulled us over the gunwales and dropped us onto the deck where we lay panting. Then Babe opened her up and headed down river for our second drop.

On board was a tarpaulin originally intended to hide under as the boat passed under the bridges. However, it was now utilized as a shelter to keep the freezing wind off us. It was thoroughly covered by spray and was becoming stiff from the cold.

We learned that Bruce had already been picked up and dropped off again at his second target.

Bucky had climbed up under the small forward deck to keep out of the wind. There wasn't enough room under the tarp for more than three divers. He had his hands up under his hood in an effort to keep them warm. His gloves had proved of little value.

Out of the dark night we approached the huge spans of Massachusetts Avenue Bridge. This was the second drop for Russ. Picking up a "charge" he slid over the side into the water. As we pulled away from the multi-spanned bridge we noticed the severe increase in the surface condition of the water. It was quite "choppy" now.

The next target was just under a mile away, the Longfellow Bridge. It was there that Cal and I were to be dropped. It was the final target on the Charles River and the longest and widest stretch of water on the river. The swells that we encountered as we made this run actually lifted the boat at least three feet in the air. The wind was particularly fierce, whipping spray around in circles. We expected the "following" sea to break over the stern at any time and swamp the boat.

As we made our approach Cal picked up a couple of "charges" and prepared to drop over the side. The closer we got to the bridge the less I liked the look of things. Huge swells (for a river) were pounding at the columns of the bridge. The condition of the water would make it extremely difficult to pick a man out of the water even in daylight. A decision had to be made soon. This was not a daredevil stunt but a well-planned, practiced and calculated operation for the sheer excitement and satisfaction of an adventuresome spirit. No amount of satisfaction for adventure could justify the risk involved. I grabbed Cal by the arm and told him we were not going

to make this drop. He didn't seem too disappointed. I then instructed Babe to pull in near the columns and we would attempt to throw our "charges" up on the low lying supports from the boat. This proved to be impossible. The swells nearly threw the boat against one of the columns. Just in the nick of time Babe "gunned" the motor and pulled out into the comparative safety of open water.

Now began the final ordeal. As we made our way upriver, the spray was breaking over the bow and covering everything in the boat. Within a few short minutes this water turned to ice.

Cal and I huddled under the tarpaulin which by this time was as stiff as a board. We did manage to keep it down over our heads. At this time I really felt the effects of my torn suit. I was sure my vibrating from the cold would literally shake the boat apart.

Meanwhile, Babe was the guy who was really taking the beating. The spray that was falling on him was freezing his clothing. The entire hood of his jacket was frozen solid. Since the windshield had long since been covered with layer upon layer of ice, Babe had to sit up high in the seat in order to see over it. Consequently, he was hit with the spray every time it broke.

Cal was lying on the bottom of the boat, obviously cold and uncomfortable. We didn't say much on the long way back to pick up Russ—except how much we longed to be in a hot tub of water about now. Cal raised the tarp and we noticed that the ice was building up all over the boat. And we still had three more miles to travel.

At last Babe called out that we were approaching the Massachusetts Avenue Bridge where we had dropped off Russ. We could barely make out the shape of the numerous arched bridge. These arches were going to cause us considerable trouble and worry for it was almost impossible to determine under which arch we dropped Russ off.

Babe drove through one arch and we all strained our eyes to catch a glimpse of Russ' light. No light. Babe turned the boat around and went through the next arch. Still no Russ. This procedure was repeated six more times with the same results, no Russ. We were getting desperate now to say the least. Finally Babe decided to follow the arches practically over to shore in the event Russ decided to swim ashore after a long wait in the water. We were riding abreast of an arch when I saw a couple of flashes of light. I gave a yell and Babe swung into the arch. There was Russ pounding his light against the base support in an attempt to make it work.

Cal readied the ladder as Babe turned the boat around under the arch to make the pickup run. The next thing we knew we were caught broadside by an unexpected swell that pushed us into a cement support. Babe "gunned" the motor but it was too late for maneuvering. I braced myself against the side of the boat and held by arms out straight to take us some of the shock if possible. It worked. The bow hit hard but little damage was done. We then pulled out into open water where Babe turned the boat around and made another pass. As he made his second approach Babe justified our choice of him to pilot the boat. Bucking heavy swells, wind blown spray lashing him, a diver in the water that he could hardly make out in the darkness, Babe calmly and methodically edged the boat closer and closer to Russ, then held it firm in that rolling, pitching river for the few vital seconds necessary to pull Russ aboard. Then, as though he were out for a Sunday cruise on a quiet millpond he nonchalantly settled back, and, in that manner of understatement for

which he is best known, turned around and said, "You know, it's gettin' kind of rough out here."

After a trip that seemed like an eternity, we arrived at the spot where we were to meet Bruce. He had been in the water well over half an hour. As in the case of Russ, Bruce wasn't there either. But this time we heard Bruce calling from the direction of shore. After bringing the boat in as close as we dared we could see Bruce putting his fins back on. He had taken them off in preparation to walking back to the launching site. He thought that we had been picked up by the police. After swimming back out to the boat he was pulled aboard by Cal, and landed right on top of my legs. At this point I didn't feel a thing, nor did anyone else, for that matter.

When we reached the rendezvous point Wayne signaled us in. As soon as we touched the beach Bucky and I darted into the nearest car and sat silently shaking, waiting for the thaw to arrive. Although it was quite warm in the car it took over half an hour for us to relax.

Meanwhile, Russ, Cal, and Bruce worked for quite a while trying to get the boat on the trailer and the trailer attached to the car. By the time they had accomplished this their suits were coated with a fine glaze of ice.

On the way back to the clubhouse Wayne reported on what he and the rest had been doing while we were gone.

After leaving the area they had driven down to the Locks at the Charles River Basin. While John Russell and Rocky Silva waited in the car Wayne went over to the railing and was preparing to attach one of our "charges" to it when he was suddenly bathed in light. He swung around to find the tower guard watching him so he discreetly withdrew. They drove a short distance to the Charles River Dam and successfully attached a "charge" to the roadbed above the dam proper. From there they drove to the Sumner Tunnel where they dropped a "charge" out of the car window halfway through. Their next stop was the Mystic River Bridge ramp that joins the Boston Central Artery. Here Rocky hopped out and tied a "charge" to the railing and dropped it down between the supporting girder and the roadbed. At the Lechemere Square Elevated Trestle Wayne attached a "charge" to a supporting girder. They then had to return to the area.

At the clubhouse Babe was helped out of his frozen jacket and coffee was served all around. After tape recording the reports of everyone concerned we all went home for a much deserved rest.

"Operation Bottleneck" had served its purpose. It gave us all a diving adventure that we shall not soon forget. It was a dive that could be perhaps equalled but never surpassed. It also caused a considerable stir amongst the general public when an unauthorized account of the dive titled "FROGMEN PROVE BRIDGES SABOTAGE KEY" hit the front pages of the Boston Daily Globe. Police and Civil Defense agencies took the brunt of the public abuse. To the best of our abilities we informed all we could that this dive was not intended to embarrass anyone. It was not done to determine whether or not Boston, Massachusetts, was susceptible to "enemy invasion" or vulnerable to "frogmen sabotage." We must have succeeded since the Captain of the Upper Charles River Division of the Metropolitan Police is now a good friend of the club.

All in all it was a unique experience performed by a unique group—skin divers. For if a boy of Bucky Taylor's stature (5 foot 6—120 pounds—15 years old) can consider this dive as . . . "One of the best I've ever been on," we must indeed be unique.

**"I'LL OUTLIVE 'EM ALL,"
SAYS JACK RUSSELL**



Jack Russell stands at left talking to author Bev Morgan.

By BEV MORGAN

"IF I DIE

Left below, Russell surveys his underwater world. At right, he is in a familiar and much loved position, skipper of a sailing vessel.



SEVERAL years ago I had a little diving supply store down by the beach. I was just another guy, making a living, settled down, and with an eye to the future. Somehow everything has changed since then. Now I am restless, wandering here and there, seeing and doing whatever I feel at the moment. I remember the day my outlook on life began to change:

I was at the repair bench, overhauling a regulator. The bench was just behind the counter so I could see over it and out the front display window. I glanced there from time to time to watch the people walking past. Occasionally someone would stop to look over the diving equipment on display in the window case, then pass on. Down the street I could hear the exhaust of a sports car, roaring to the change of gears. It swerved into the curb just in front of the store and the driver killed the engine. He stepped out and up to the store window. I watched as he looked over the display. He was of medium build, with eyes that spoke of many miles traveled and many things seen. Over the eyes, the "sports car" tweed cap tried to cover his sandy hair. He was complete with waxed mustache and I half expected to see rally maps protrud-

E TRYING"

ing from his pockets.

He opened the door and stepped in. "Hummmm," he muttered as his eyes went from one piece of equipment to another. Only after soaking up everything in sight did he finally take notice of me.

"Ah-ha, there you are! My name is Jack Russell and I want to have you construct me a submarine. How much will it cost?" He extended his hand at the same time.

I was trying to digest all of this as he pumped my hand. "Well, now, Mr. Russell, I don't think we are—I mean I don't think we can—How big a submarine?"

"Well, how big is big enough?" He asked.

The conversation went on in circles for the rest of the day. I was not prepared for Jack Russell, I don't think anyone ever has been. I was experienced in dealing with many types of people in the store: Some wanted "deals;" some were good credit risks, some bad; others wanted to just talk. But this guy, this Russell wanted to run the store!

"I was shell diving with the natives in the South Pacific not long ago," he was saying as he stepped behind the counter, past the "keep out" sign. I couldn't just push him out.

"Er, Mr. Russell, if you don't mind . . ." I started to say.

"Oh, no," he said as he picked up one of the regulator repair tools, "no, I don't mind at all. Be glad to tell you the story. You see, me and Willie—Willie was my diving partner—we had this whale boat . . ." He finished assembling the regulator, glancing at the parts chart as he talked.

I could not do a thing to stop him. Besides his story was interesting, and he did know how to work on regulators. It did not take long for him to take over the store. I had two partners, Bill and Bob Meistrell. When they walked in cold to see Russell behind the counter,

I had some explaining to do. I took them aside and tried to tell them how a stranger could walk in and take over the place.

Naturally I couldn't tell them how it happened, so we moved back into the showroom to get rid of Russell. The three of us stopped at the door and stared in amazement. Russell was ringing up a hundred dollar sale, and a customer was just leaving with an armload of goodies. It didn't take long for his magic to wear into Bob and Bill, and from then on it seemed that Russell owned the store. As I think back now, the store did do better after that.

Several days later we all went diving. Russell had been spouting off diving stories that sometimes seemed a little far fetched, and, although we liked him, it only seemed fair to catch him in a lie. Then, perhaps his stories would become more realistic. One of his stories was about skin diving to ninety feet with "old Willie, out there in the Islands." Now Bill knew of a spot that was exactly seventy feet deep, so we decided to catch Russell red handed.

"Here we are, Jack," Bill said as we anchored. "Say, would you mind jumping in and seeing if we are over rocks or sand?"

Jack strapped on his mask and eased into the water. Bill and I glanced at each other with a smile. We had him now. Russell kicked up his fins and disappeared in a dive. We watched him disappear down into the somewhat turbid water. Soon he came kicking up to the surface.

"Nothing here but sand," he said.

"He's faking it," I whispered to Bill.

Then Russell opened a clenched fist and tossed a handful of sand into the water. I learned then that it was impossible to catch the guy. He could tell the most bald-faced lies, but everytime someone would call him on it, he could back up his story clean. How he does it I will never know.

Once he disappeared for six months. He just walked out one day and was gone six months. He left his clothes, car and diving gear. All he took was the clothes on his back, and all he said was, "I'm going to Malibu to see someone." We became worried after a couple of weeks and called the police and checked everywhere, but to no avail. One day, six months later, he walked in and just said, "Hi," then walked out back to grab an air tank to fill it. It was as if he had stepped out for a bite and had been gone fifteen minutes.

"Where have you been!" we asked.

"Oh, a friend and I wrote a book," he said casually.

"I don't believe it," I said, "What's the name of it?"

"Ocean's Eleven," he said.

It was a while before I believed it, but sure enough, he did it. Hollywood even made a movie about it. Russell was a paratrooper during World War II, and he drew on his background to write the book.

Another thing he would do, speaking of his wartime experience, is tell shark stories. He has a large section of his posterior missing from a flame thrower wound. This cavity happen to be the size of an imaginary shark's mouth. From time to time I would overhear his telling someone a shark story. About the time the listener became doubtful, Russell would turn around, pull up his shirt and drop his pants, exposing the scar tissue. This always made Christians out of the disbelievers. I never did call him on these stories, he would just get out of it somehow.

Russell changed me from that settled down state I was in. He showed me how to make business boom, then,

(Continued on Next Page)



Russell strolls across Easter Island after photographing famed Tiki Gods carved by ancients.

tiring of that, he opened my eyes to adventuring. It was off to Mexico, then to Tahiti. Jump on the airplane for Fiji, sail to Easter Island, and it goes on and on.

Once we were in a small hotel in Costa Rica in Central America. Plazi Miller, Ramsey Parks, and I were listening to Russell tell the latest news from the States as he read a magazine.

"Where did you get a magazine in English," asked Miller.

"Oh, down the street by the picture show," answered Jack.

"That's odd, I looked all over and couldn't find any," said Miller.

Russell continued to tell us the news, then put down the magazine and started to take a shower. Miller picked up the magazine, looked at several pages, stopped, and looked at Ramsey and me. "Look at this," he said, holding the magazine up for us to see. It was in Spanish, from cover to cover, and Russell doesn't speak or understand a word of Spanish. Somehow he can absorb and communicate everywhere to everyone. I have seen strange things happen about Russell, but they do not all concern diving. I fill you, the reader, in this far to give you a background to an undersea story about this amazing man. I might add that his favorite saying is, "I have more survival potential than all of you guys put together. I'll outlive you all, if I die trying."

Jack Russell was knocking about Australia, diving here and there, working here and there. Being particularly low on funds, he decided to do some salvage diving. It was not long before he had the familiar tank strapped on and was over the side to raise a large fishing boat that was lying upright on the bottom of Moreton Bay.

He descended into the hole of the boat to plug any leaks, preparing it to be blown with air to help raise the boat. He groped about the dark hole, lighting his way with a flashlight. After completing his job, he swam to the hatch and started to emerge.

I came by this story through letters with Jack, so perhaps I should let him tell this part of the story.

"As I came out of the dark hole, some strange feeling urged me to turn to my left. I did, and was horrified to see a large shark immediately upon me. I only had time to raise my left hand, the hand with the flashlight. The shark took the hand and part of my arm into his mouth and bit down. As he did this I beat him on the snout with my other hand. He began to shake on my arm. I knew that this was the sawing action, so I had to do something fast. I jammed the thumb of my free hand into his eye. That did the trick. He let go and swam off. All of this happened

in an instant, of course. When he let go, my blood that had been in his mouth flowed forth. There was so much in the water that I was blinded. I knew there were other sharks in the area and my main concern was to get away from the blood. I grabbed my wrist tight to slow the flow of blood and swam for the cabin of the sunken boat. After reaching the cabin, I swam up, using the mast for some cover. As I did this, I could see sharks closing in from everywhere. I surfaced next to the tending boat and was hauled aboard immediately. I am writing you from a hospital here in Brisbane where I am being repaired. The flashlight saved my hand," signed, Jack R.

Russell felt kind of low about then I guess. Just the fact that he wrote meant something was wrong. Usually, he never writes. Finally, one day I received a letter that told me he was taking a steamer to Hawaii. Of course he would arrive broke, so would I send him an airplane ticket to get him back to California. Between Plazi Miller and I we decided to send him the ticket. Knowing Russell, we fixed it up with the airline so he could not, under any condition, cash in the ticket. Then we mailed the ticket along with enough money to get him by, but not enough to let him wander around Honolulu too much.

Ramsey Parks, Miller, and I drove to the airport to welcome Russell. It was a miserable morning. A light drizzle fell as we crawled through the heavy traffic to International Airport. We stood behind the fence and watched the jet glide in and taxi to a stop in front of us. The stairs were rolled into place and soon the passengers were coming out. Where was Russell? Knowing him, he would probably wait until last. Sure enough, everyone came out but Russell. He had waited long enough, where was he? The crew then came out, maybe he flew the damn thing, who knows? We gave up when the sweepers started up the stairs. A quick check with the ticket desk proved that he hadn't been on the plane. We drove back to Newport full of disappointment.

"What about the ticket?" someone said.

"No good now, not even Russell could cash it in, we saw to that," another said.

Several days later, a friend, Don Cameron, flew in from Hawaii with a story about Russell. Russell had arrived in Hawaii all right. He dropped in on Don one day (Don had his boat in Ala Wai Yacht Basin) to see if there was any word from us. We had the foresight to write Don about Russell and to be sure to get him on the plane. Don told Russell all the latest dope from us, including the fact that Morgan was leaving for Tahiti in a few days aboard a yacht.

"I been thinking about Tahiti myself," Jack said.

"How about the airplane ticket to California? You can't cash it in, and besides, it was for three days ago, so it's no good now," said Don.

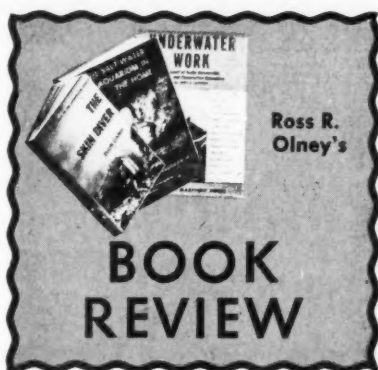
"Oh, yeah, that," Jack mumbled. "Come on."

Don drove Russell to the Waikiki airline ticket office. Russell ran in while Don was parking his car. By the time Don entered the ticket office, Russell had his shirt up and was going into his "Shark Bite" act. The unfortunate attendant was near to tears.

"Then he took some meat out of here!" Russell was saying—"Oh, Don, here's a ticket for you to California." He handed Don a ticket.

The attendant, by now somewhat pale from looking at Russell's scars, said, "Do you need any more money, Mr. Russell?"

There it was again: Russell and his magic. He not only cashed in his ticket, but got one for Don to boot. What happened to Jack Russell? Well, the last I heard of him, he was seen dancing through the streets of Papeete, a Tahitian girl on both arms, a glint in his eye, not a care in the world, and probably saying to himself, "I'll outlive 'em all, if I die trying."



BOOK REVIEW

INDIAN OCEAN ADVENTURE

By

Arthur C. Clarke

Photos by

Mike Wilson

"If you look at a map of the world, you will see that the island of Ceylon hangs like a teardrop off the southern tip of India. What no ordinary map will show you, however, is that off the southern coast of Ceylon

is another island, little bigger than a tennis court. It is really nothing more than a bare rock, only two or three feet above the water when the sea is calm... which is seldom."

This is author Arthur C. Clarke's description of the Great Basses Reef, the location of his fascinating "Indian Ocean Adventure."

A photographic expedition (with some strange results) prompted the three men, Arthur C. Clarke, Mike Wilson and Rodney Jonklass, to spend some time on and under the remote reef with its spirelike lighthouse.

From the moment the three men leave the well populated shore of Ceylon in the motor launch "Pharos" the true life adventure begins. Author Clarke captures the strange loneliness of the lighthouse keeper's life with pure realism and the accompanying Wilson photos on almost every page make the book an enjoyable evening's reading.

The construction of the indestructible granite lighthouse is explained... a huge spire that has been able to take the worst the Indian Ocean has to offer since its completion in 1873 (though Clarke mentions the vibrations at night when the giant waves smash at the man-made structure).

Almost like being inside a huge ruby is the way Clarke describes his evening inside the lens as the red eye winks, warning passing ships away from the sharp reefs.

Underwater around Great Basses Reef is a diver's Shangri-La. Remote

and lonely, miles from civilization and unexplored, the area abounds with sea life unafraid of man. Away from the reef and its crashing white water, the sea is crystal clear and man feels as though he is suspended in air, hovering over a fairly-land bottom.

Clarke describes the friendly groupers which were trained to swim through hoops and to wait patiently in line for their dinner. Wilson backs up Clarke's claims with pictures of the three stars of the show, Ali Baba, Simbad and Aladdin, the youngest and most aggressive.

The three divers encounter many forms of marine life during their stay on the remote island... sharks included, and their daily job of getting off and back on the coral encrusted, razor sharp reef will make the average diver chill.

Arthur C. Clarke, well-known not only for his books about the underwater world but also for his science fiction writings, has chosen Ceylon for his home, as did his friend, Mike Wilson, a noted photographer. The two men, with the aid of well-known diver Rod Jonklass, have put together a book which should be on the shelf of every diver... and every man who dreams of adventure in the remote seas. It is fast, easy reading with many, many photographs taken in the crystal depths of the Indian Ocean.

"Indian Ocean Adventure" is available at your local bookstore or through the publishers, Harper & Brothers, for \$2.95.

PERSONALITY SPOTLIGHT

(Continued from Page 18)



Hugh Downs, left, prepares for dive in warm, tropical waters.

"In fact from New Jersey north visibility of twelve feet is a time to rejoice. On a dive to fifty feet the surface is out of sight a long time before the bottom is reached and you have an eerie feeling in not knowing for certain which way is up."

It has been rumored in many national syndicated columns that Hugh is planning a dive on the site of the sunken luxury liner, Andrea Doria. Hugh revealed that the rumors must have cropped up as a result of some plans several years ago when NBC had planned to do a show on the liner. The plans were shelved, but Hugh added that if the company would again decide to do a show, he'd love to make the dive.

Although not an active member of a diving club, mainly because he doesn't have enough time to devote to club membership, he is an honorary member of many clubs including the Underwater Society of America.

He is also interested in many other water activities including celestial navigation and may navigate one of the boats to Bermuda this year. His two youngsters, Dierdre and Hugh R., gave him a sextant for Fathers Day this year.

Hugh's television career has been varied... he has been a comedian's straightman, an interviewer, narrator, newscaster, announcer and host. He looks back to his beginning as a radio announcer in Lima, Ohio, when he was 17, then on to radio jobs in Detroit and Chicago. He spent eleven years in Chicago as an announcer, disk jockey and emcee before coming to New York in 1954 to host the NBC-TV "Home" show. Hugh joined "The Jack Paar Show" in 1957. Today you'll see Hugh on your television sets many hours a week. His busy schedule includes an hour and forty-five minutes, five nights a week as announcer on the Paar show and five days a week as host of "Concentration." Such exposure certainly hasn't hurt his popularity with television audiences. "Concentration" is the network's highest rated daytime program and he has won the Fame Award as best announcer an unprecedented three years in a row.

INTERNATIONAL UNDERWATER FILM FESTIVAL

By AL TILLMAN



Shown underwater with his "Kinemax" and in the inset, is Victor De Sanctis, famed underwater photographer. De Sanctis was recently chosen Underwater Photographer of 1961 by the Executive Council of the Underwater Film Festival.

VIVA LA ITALIA! The French and American domination of the International Underwater Film Festival will be broken again this year (Dr. Hans Haas did it in 1959) with the announcement that Victor de Sanctis of Italy has been selected by the executive advisory council as the Underwater Photographer of 1961. Mr. De Sanctis will arrive in Hollywood a few days before the January 6 and 7 dates of the Festival for a series of press conferences.

The Festival this year will be high lighted by a Saturday night show and a Sunday matinee. Both shows will feature different film programs of equal significance and excitement. Victor De Sanctis will preview his latest motion pictures of thrilling experiences with the creatures and fish people of the Mediterranean along with a cavalcade of his film achievements and prize sequence from the pioneer days of underwater activity. Gustav Dalla Valle, a De Sanctis boyhood friend, reports there will be film

that was entered in the Cannes Festival many years ago. It was the first underwater film ever made except for one other entry that year. The other underwater film won the Festival. It's producer-photographer was Jacques-Yves Cousteau.

There is still some speculation about the other honored films to be shown but Festival officials guarantee the very best film of 1961 will be on view. Several excellent film stories of the giant octopus will be seen as well as some hair-raising productions about poisonous fish. One of the honorees for 1961, Col. John Craig will preview recently arrived film on the first controlled studies of man-eating sharks. Col. Craig's other footage will highlight the most exciting experiences of his career. The salmon story through the eyes of a Canadian Underwater Photographer and exciting new films from top Mexican divers will be unveiled. It all promises to be one of those great and memorable events that happen once in a life time.

Medal winners in motion picture and side divisions of the International Competitions will be included in the program. Out-of-towners are urged to take advantage of the package offering—celebrity party January 5, two deluxe charter boat dives, a seminar featuring the professionals, and the two big film shows (top priority seats) for a \$25.00 registration fee. Write Underwater Film Festival c/o Skin Diver Magazine, Box 111, Lynwood, California.

This is the Fifth International Underwater Film Festival and the Hollywood area is a fitting setting for its presentation. The most beautiful facility in the world, Santa Monica Civic Auditorium, is once again the Festival Headquarters. The Motion Picture Academy Awards, the Oscars, are presented on the stage of this same auditorium. Admission prices for each show range from \$2.00 to \$2.50. Those planning to come should buy their seats now at any Mutual Ticket Agency or the box office of the Santa Monica Civic Auditorium. Those attending are reminded that both film showings are completely different so don't miss any of these outstanding films.

The strangest and most terrifying creatures of the sea will pass before your eyes. A world of beauty and mysteries will fill the screen in breathtaking color. New and original films never before seen and perhaps never to be shown again make this a must for all adventurers. It is a dynamic event that will be discussed over and over in the decades ahead. We'll be looking for you January 6 and 7, 1962, at the Santa Monica Civic Auditorium. ➤



DINING FOR DIVERS

by Allan Petrie

OH HAPPY DAY! Lobster is back in season! I suppose this is the signal for my annual correspondence battle with divers from the Northeast who still are of the uninformed opinion that unless it has two claws out front, it just isn't lobster. Paul Enrique came up with an idea while he, Louis Thomas, and I opened lobster season at Santa Barbara island. We could



"Chef" Petrie

take the claws from a nice big kelp crab and glue them on a California Spiny Lobster, and fool all the New Englanders. But then, why bother. We know our lobster tastes better!

The morning of lobster season, Paul started off early. He dropped over the side before breakfast and came up with two nice ones. So here is a recipe that is easy, fast, and great for breakfast. Lobster omelete! You need:

- 2 legal sized lobster (for serving three)
- a couple of green onions
- 3 slices of thick sliced bacon
- ½ dozen eggs

Use the biggest frying pan you've got, and you can make an omelete for three. Cut the bacon into squares, and saute the onions in the bacon. As soon as the onions begin to turn translucent, add the meat from the lobster tails in chunks. As soon as the lobster meat turns white, add the eggs which you have beaten. Remember, in an omelete, you have to keep the pan moving. As soon as the eggs are solid and the center still a little moist, fold it and slip it onto a serving platter. We did this one on a portable barbecue.

With lobster, as with most sea food, the mistake that most people make is overcooking. Lobster is delicate and should be treated with affection, if you want it to please you at meal time. Pulling one out of a hole is a different matter, of course. But after he is yours—be nice to him. If you boil him, make it 3 minutes to the pound. If you broil him, do it just enough to firm the meat. If you poach him—and I am referring to a cooking process—do it in wine and do it gently.

Every once in while someone comes up with a bug that goes over ten pounds. This can present a problem if you try to boil him. He just won't fit in the pot. But, here is a way that will endear you to all your non diving friends and make you the talk of the town. Have a lobster barbecue!

Take the tail, and remove all the meat. The center vein must be removed of course! With a ten pounder, the meat from the tail will resemble a small whole tenderloin. So treat it the same way. Slice the meat into steaks—lobster steaks—about ¾ an inch thick. Barbecue them over charcoal quickly. Baste them while barbecuing with lemon butter. It's easy and it's great. The only trick is to get the ten pound lobster.

Down south, they like to bake lobster. This is, in many respects, a show dish. But actually, it is quite easy. For four people you will need:

- 2 three pound lobsters
- 1 bottle of golden Sherry
- 1 pint of cream and ½ pound of butter
- 3 egg yolks
- 1 package of grated Parmesan cheese
- a sprinkling of sweet basil and a little flour

Boil the lobsters for nine minutes—no more! Split them down the middle and remove all the meat. Clean the shells out, because they are now your baking dishes. In a double boiler, melt the butter and add a little flour—stirring constantly—until you have a paste. Add the cream and keep stirring. As the cream starts to thicken, reduce your heat and add four ounces of the Golden Sherry. Break the lobster meat up into chunks and add to the sauce. Mix the egg yolks with a little sauce, and pour them into the double boiler. Increase the heat until the sauce starts to thicken again. Fill the lobster shells with lobster and sauce. Sprinkle the Parmesan cheese over the lobster and brown the cheese under the broiler. Just before serving—right from under the broiler—sprinkle the sweet basil on top.

If you just want to fix lobster tails, either under a broiler or on a barbecue, remember—cook them quickly and don't get them too near the flame. The open meat should be toward the flame, not the shell. With tails, I usually take a pair of scissors and cut down either side of the tail—on the inside—and remove the membrane. This exposes the meat enough for broiling or barbecuing.

One more use for lobster is as an hors d'oeuvre. Take two cups of boiled lobster meat cut into chunks and mix them with 1/3 cup of mayonnaise. Add a sprinkling of fresh chopped parsley. Chill for at least an hour. Then add a tablespoon of tomato sauce, the juice of a lemon, a little salt and pepper—and then two ounces of good brandy. Chill it again and serve cold. You can vary this a couple of ways to suit your own taste. You can add a little dry mustard to the mayonnaise. Or, you can add a dash of Tabasco Sauce. Anyway, lobster makes a good hors d'oeuvre!

If you have any questions, shoot them in. We'll try to answer them for you. Or if you have a favorite recipe, I'm always looking for new ones to try.



Arnie Post of Richard's Aqua-Lung Center, New York City, on a trip to the west coast bagged a twenty-pound sheephead at Ship Rock, off Catalina Island. On page 32-5 of the Diving News edition going to subscribers of Skin Diver Magazine, in this issue inadvertently listed Mr. Post with another dive shop.



The Skin Divers Vend Air

Recently a new type of air machine was installed at Tuck's Water Sport Store in Chicago. This machine is a coin operated dispenser for diving air. If you can mount a regulator on a tank, you should have no trouble using this machine. The automatic control which makes this unit possible was under development for five years and is

foolproof and safe to operate. Briefly, here is how it works. Your tank is positioned in a water cooled chamber, the filler yoke is connected and a test is made for proper placement.

After the correct amount of quarters is inserted, air will flow in periodic bursts. This system then fills your tank to its pressure rating plus a legal 10% overfill.

The Vend Air will fill 38 and 70, double 38 and double 70 cubic foot tanks. Prices for each size are local and top off price is also a feature.

In the event of any trouble, the machine turns itself off at once. Simple directions are posted on each unit.

The plans for the Vend Air? Diving is limited to the availability of air in any locality. This unit is perhaps the fore-runner of many such machines which the builders plan to spot wherever good diving may be had. They have gone into production on a unit which will have a compressor built in, fully filtered and delivering pure air.

For further details, contact:

Skin Divers Vend Air, P. O. Box #7, Franklin Park, Illinois.

NATIONAL ASSOCIATION OF UNDERWATER INSTRUCTORS

GERRALD H. HOWLAND
EXECUTIVE SECRETARY

CERTIFICATION COURSE REPORTS ON SEATTLE, FORT LAUDERDALE AND TORONTO

TORONTO

AUGUST 13 to 19 inclusive saw 38 men from Manitoba, Ontario, Quebec, Nova Scotia, New York and Massachusetts in attendance at the joint NAUI—Ontario Underwater Council Instructor Certification Course, held at the University of Toronto in Toronto, Canada.

The Underwater Club of Canada was the legal sponsor of the course and received the best assistance available in the skin diving field in this area through the members of the Course Board of Directors. The Board was made up of Bruce Babcock of Weston Aquatics and President of the Etobicoke Underwater Club, George Burt, Vice-President of the Underwater Club of Canada, Ben Davis, President of the Underwater Club of Canada and Director of Safety of the Underwater Society of America, Ed Day of Dominion Divers, the Treasurer of the Underwater Club of Canada, Neal Hess, Executive Secretary of NAUI, Herb Ingraham of the Hamilton Barrascubas, NAUI #41 and Editor of the Ontario Diver, Steve Kozak of the Etobicoke Underwater Club, Ken Lynn, secretary of the Etobicoke Underwater Club, and Bob Smith, President of the Ontario Underwater Council.

On this course the instructional staff was made up of five men from the United States and four from Canada, which once again shows the truly continental attitude of NAUI. From the States were Ed H. Lanphier, M.D., Neal Hess (NAUI), Jerry Dzindzeleta (NAUI), Ray Tussey (NAUI), and Al O'Neill (NAUI). Bill Meeks from Washington, D. C., came along with Ray

Tussey and was a very valuable man. From Canada were Cressy McCatty, Prof. Roger Dean, David Anderson and Ben Davis.

All arrangements for the course in Toronto, with the exception of the securing of the four instructors from the U.S., were carried out by the Toronto Course Board. The course was carried out under franchise from NAUI and the content of the course was NAUI approved and certified.

Of the 38 men in the course, 22 were Certified, 8 were Certified Provisional and the remainder were either Provisional or not certified. Unfortunately, one man was called away overseas due to an illness in the family.

Both the Toronto Course Directors and the NAUI Board feel that the course was an important step for organized diving in that divers from organized clubs, the Y.M.C.A., professional divers and representatives from the commercial end of diving attended the course.

Special thanks to Cressy McCatty, National Director of Life Saving and Aquatics for the Y.M.C.A. (Canada), for his wonderful work in the course, to Dr. Ed Lanphier for his usual inspired lectures and to Prof. Roger Dean and David Anderson who lectured on Limnology and the Legal Aspects respectively.

It was a great course with fine instructors and keen students. These courses are a rare opportunity to meet the best in the field and keep yourself, your organization and your area aware and competent in the instruction of this sport of diving.

Safety through Education is a worthwhile motto indeed, with which at least 38 divers from the Toronto Course heartily concur.

Advantage was taken of the very generous nature and attitude of one of the students at Toronto who made available his home, his boathouse, his boats, his compressor and his dock for the open-water test. Heartly thanks to Ross Cowan.

Next year another course will be held

here in Toronto along the same lines as this past one. It is expected to take place the third week in July. More information will be provided through Skin Diver Magazine and the Ontario Diver at the beginning of the year, in order that those wishing to enroll can get their names in early.

Toronto N.A.U.I. Course Graduates

Larry Burden	Steve Kozak
Trenton, Ont.	Weston, Ont.
John W. Ryder	Albert J. Hocking
Campbellville, Ont.	Peterboro, Ont.
John Adams	Daniel J. Kelley
Falconbridge, Ont.	Williamsville, N. Y.
Warren Buck	Gilbert J. Lamothe
Greenwood, N. S.	Winnipeg, Man.
Jack J. Bradford	George H. O'Connell
Willowdale, Ont.	Dorval, Que.
D. R. McMullen	Richard W. Parلمان
Owen Sound, Ont.	Westover AFB, Mass.
Thomas A. McCallum	Bruce McDonald
Toronto, Ont.	Collingwood, Ont.
George Burt	Reg Winstall
Toronto, Ont.	Toronto, Ont.
G. A. Ross Cowan	Leo St. Croix
Barrie, Ont.	Windsor, Ont.
C. B. Davis	John T. Roe
Willowdale, Ont.	Ottawa, Ont.
Maurice Delisle	Mont Richards
Quebec 4, Que.	Morley Markell
Norman E. Evans	George Little
Hamilton, Ont.	Robert McEwan
Alexander J.	Trevor Meldrum
Konopczynski	Glenn K. Graham
Peterborough, Ont.	Anthony E. Alonzo



Group photo of happy graduates of Seattle course, held at the University of Washington.



Dr. Fleming demonstrates local tidal changes using working model of Puget Sound.



Al Tillman explains the organization of NAUI and the obligation of the newly certified instructors.

FORT LAUDERDALE

By JOHN C. JONES

Course Director



Executive Secretary Gerald H. Howland lectures to students at Fort Lauderdale Certification Course.



Los Angeles teacher Al Tillman, member of NAUI Board of Directors, explains equipment handling to candidates.

BLUE SKIES, bright sunshine and a wonderful ocean breeze greeted the thirty-nine candidates as they registered at the beautiful Galt Ocean Mile Hotel for a week of intensive preparation for instructor certification.

A full schedule of day and evening sessions on diving knowledge and skills, teaching theory and methods, search and recovery and the practical aspects of instruction had the candidates leading a busy life during the week, finishing up on Saturday with an ocean test and banquet.

Several unscheduled events of considerable interest were enjoyed by the candidates. These included a showing of "The Silent World," a visit from Bill Barada, a demonstration of a new underwater communication device, Jim Cahill's stories, and from all reports, the pre-banquet party given by Ray Manieri and Elfego Ruiz.

The candidates were a sincere and dedicated group, eager to learn, yet each of them contributing something to the others. As a whole, the group was very well qualified and with good backgrounds. Experience ranged from one to twenty-five years and ages from 21 to 50. Two women were enrolled and made a good showing for the fair sex. Many special fields of knowledge were represented including engineers, pilot, hard hat diver, photographer, producer of underwater movies, policemen, etc.

The faculty of Al Tillman, Garry Howland, John Jones, Neal Hess, Eddie Malinowski, Herb Kumpf, Hal Lattimore and Captain Duffner gave generously of their time and of themselves to make the course a meaningful experience for those in attendance.

Houston course graduates Jim Drew and Dr. J. A. Bodner turned up to spend the week and were promptly put to work. They were a great help with the course and to the overloaded staff.

Much credit for a successful course is due to the excellent cooperation of local people. Our sincere thanks go to the following: The Galt Ocean Mile Hotel for excellent facilities and warm welcome; Harbor Beach Tackle and Marine Dive Shop for certified air; and to owner Henry Cornel of the "Candie-Kid."

We are also grateful to U. S. Divers, Inc. for the use of tanks and regulators, the loan



Group photo of instructor candidates happy and smiling in the Florida sunshine.

of "The Silent World" and their assistance in other ways.

This was a fine group of people and we gained much by our association with them. Their attendance at this course and future activity is bound to have an impact on diving instruction and we are sure much improvement will be the result.

Ft. Lauderdale Course Graduates

Michael L. Adams	Charles J. Hepp
W. Palm Beach, Fla.	Fort Lauderdale, Fla.
Leon A. Albritton	Robert D. Johnston
Hunter AFB, Ga.	Fort Lauderdale, Fla.
Robert H. Arrington	Gregory J. Korwek
New York, N. Y.	Erie, Pa.
Robert E. Bafford	Herbert F. Kraft
Baltimore 8, Md.	Lantana, Florida
James M. Barkuloo	Henry D. Lockhart
Panama City, Fla.	Fort Lauderdale, Fla.
Lloyd E. Bell	Raymond E. Manieri
Savannah, Ga.	Greensboro, N. C.
Herman L. Bracken	Arthur E. Nelson
New York, N. Y.	Hialeah, Fla.
Richard E. Byam	Elfego Ruiz
Warren AFB, Wyo.	Mexico 12, D.F.
Robert H. Clark	Stephen Selwyn
West Hollywood, Fla.	Brooklyn, N. Y.
Abelardo J. de la	William H. Shearin
Las'ra	Winer Park, Fla.
Panama, R.P.	Jack C. Soffel
Harold A. Drake	Levittown, N. J.
W. Palm Beach, Fla.	Pernard Sterno
Helene C. Drew	Cheyenne, Wyo.
W. Palm Beach, Fla.	George O. Swindell
Linwell C. Flake	Norwalk, Conn.
Merritt Island, Fla.	William C. Thomas
James E. Gibbons	Brooklyn, N. Y.
Buffalo, N. Y.	Woodrow W. Thomas
Richard C. Harrison	Merritt Island, Fla.
Little Rock, Ark.	Fred H. Trull
Gilbert J. Hass	Logan, Utah
Miami, Florida	Harold H. Wagner
	Ft. Davis, Canal Zone

NATIONAL ASSOCIATION OF UNDERWATER INSTRUCTORS CERTIFICATION COURSE SCHEDULE FOR 1962

THE 1962 CERTIFICATION COURSES FOR THE NATIONAL ASSOCIATION OF UNDERWATER INSTRUCTORS HAVE BEEN ANNOUNCED. COURSES WILL BE HELD IN THE FOLLOWING AREAS ON THE DATES NOTED.

LOS ANGELES, CALIFORNIA

APRIL 15-21

TORONTO, CANADA

JULY 15-21

NORTHEASTERN U.S.

(City to be announced)

SEPTEMBER 9-15

SEATTLE

By BOB STAUNTON

NAUI No. 68

N.A.U.I.—W.S.C.S.D.C.

INSTRUCTOR CERTIFICATION—1961

Sept. 10th-16th, Univ. of Wash., Seattle

Frank R. Baker

Portland 2, Ore.

Louis D. Farnsworth,

Jr.

Eugene, Ore.

William L. H'gh

Seattle 5, Wash.

Richard S. Koch

Olympia, Wash.

Delano "Pete" Manos

Los Angeles 7, Calif.

John T. Miller

Seattle 88, Wash.

Charles Peterson

Lomita, Calif.

Capt. Arthur B.

Rhodes

Fort Lewis, Wash.

Stanley H. Sheley

San Jose, Calif.

Mack F. Thomson

Seattle 15, Wash.

Robert D. Fulton

Seattle, Wash.

Louis A. Schwing

Seattle, Wash.

Kenneth J. Stevens

Olympia, Wash.

SUNDAY, September 10th saw the beginning of the Instructors Course in Seattle co-sponsored by the NAUI and the Washington Council of Skin Diving Clubs. Registration of the twenty-one applicants and team assignments took place on the University of Washington campus.

Eugene Winters, the Instructor Trainer for Washington, was able to obtain the facilities of the University, the use of the pool, classrooms, and auditorium in the Fisheries Dept. The Washington Council and NAUI would like to publicly thank the Dept. heads that made these facilities available.

Sunday evening held an orientation for the trainees. Monday started the week off with a very tight schedule beginning at 8:00 a.m. sharp and running until 10:00 p.m. straight through until Friday.

One of the more notable lecturers was the well-known Chief Master Diver Bob Sheats, who opened the eyes of the class with his instruction, use, and dangers through the

(Continued on Next Page)

NAUI Washington

(Continued from Last Page)

misuse of the decompression tables. Chief Sheats recommended that all instructors make sure that their students are adequately trained in the use of the tables before completing a course in diving.

The Physiology of Diving was more than well covered by Dr. Shaw of the USN, stationed at Keyport Naval Station.

One of the more relaxed and yet informative lectures was delivered by Mr. William High, of the Halibut Commission, on fresh water and Marine Biology.

Marine and Salvage law by Mr. Crutcher was most enlightening.

Al Tillman, the spearhead of NAUI, was ably assisted by Dave Woodward and Eugene Winters during the sessions covering teaching practices and techniques.

Dr. Fleming of the Oceanography Dept. completed his talk on tides and currents with a tour of the model tidal basin of Puget Sound. At that time the students were able to see the tidal changes and current pressures which they or their future classes would be subject to.

As the week wore on the days seemed longer to the students and yet not long enough to the Instructors. Friday arrived all too soon and the moment of truth was at hand. For two hours twenty-one potential instructors tried to put on paper a summary of their diving knowledge. Following the written exam, Chuck Griswald, Al Tillman and Bob Staunton had their work cut out for them trying to evaluate the tests.

The open water tests on Saturday demonstrated quite clearly that textbook knowledge of diving and teaching ability are not the only prerequisites for a good instructor. The capability of applying this knowledge with confidence in and under the water is of equal importance.

The graduation luncheon was held in one of the private dining rooms in the Hub on the U. W. Campus. Dr. Ed Winskill, the President of the Washington Council, made the introductions of the NAUI Staff and each student was asked to introduce his guest.

Recognition was given to the outstanding students in the class, such as Dr. Richard Koch who distinguished himself by coming out of the written exam with top honors. Frank Baker of Portland, and Bill High of Seattle tied for ranking honors with consistently high grades throughout the course. Of the twenty-one registrants, 13 received Certification by NAUI, while the remainder had to agree that even though they were not certified a great deal was learned to assist them in their future programs.

CAREBE FAREWELL

— El Tiburón
(N.A.U.I. Instructor)

The evening was very typical of the area; quite calm and clear, and pleasingly quiet except for the occasional squall of a passing sea bird and the continuous, monotone lapping of the ocean's tender fingers reaching

up across the gleaming white sand, grasping for more of the beach. Just a slight hint of a breeze whispered over the surf, carrying the fresh salt air up the beach and over the scrub brush that bordered the dry sand, on into the shade of majestically tall, gracefully swaying coconut palms. On the far side of the grove of palms, the tassles of sugar cane, colored from a faded purple of violet to a shiny white, almost transparent in the late sun's rays, could be seen rippling lazily in a sea of waves much as the ocean itself. Grasping every possible inch of growing space, the cane had become a jungle, dominating this flat land right up to the base of an overhanging cliff. On the cliff the green vines, intertwining through themselves, and the orchids, colored as a misty rainbow, found small areas where roots could cling to bare rock, thus sustaining life.

The sea, too, must sustain life; its life. She is a beautiful woman with clear, crystal eyes, long flowing hair, and ever-changing features, as well as continuous changing moods. Her heart can be very warm and gentle, opening her arms to you as would a mother; then suddenly, and seemingly without provocation, she would lash out with screaming rage, seeking revenge on rocks and beaches surrounding all the islands of the Caribbean.

I could feel the gentle coolness of the evening breeze, adding a certain splendor to the delicate, bronze streamers shot from the sun through the fluffy clouds like mighty lances piercing each splashing wave. Like the hungry, wanton lady she has always been throughout time, the sea slowly devoured the most powerful of all the sky's spheres. The task seemed extremely slow and painful, as if the sun knew defeat was near at hand but stubbornly refused to die. Only the sea could perform such a feat!

I have noticed recently the anger she held. She swept wrath upon all the beaches around the island, daring the unwary to venture too close to her outstretched arms.

She is a moody woman. At times I have seen her fight at the shoreline, matching my own anger at her; then again she has been as gentle and placid as a new born child. I have one lasting memory she imbedded in my mind forever: she is very unforgiving of stupidity!

Tonight she presented an entirely different face; one that I could feel long before I could see. Her long, streaming hair was as platinum in the early moonlight, drifting without purpose or way up to jagged rocks that formed a gateway to her domain. I watched with a longing heart as she wept her farewell on the warm sandy

beach at my feet. In anger, anxiety, or at peace, she has always seemed somewhat in a hurry. She has eroded the most gigantic and most solid rocky cliffs in her efforts to be beautiful. But tonight she seems sorrowed; slowed to a rolling murmur: neither lazy nor tired, but sad.

As we conversed, we made many foolish statements from our hearts concerning our past together, our present status of parting, and possible future encounters. In fits of fury we have fought against each other, not as people fight, but as only those few who really know her can go into combat against her. I smiled as she reminded me of the times I spent childishly watching the antics and habits of small coral fish, brilliantly colored like all the jewelry of the sea. I failed to become aroused when we reminisced over the time she tried desperately to free a speared turtle from my gun and nearly took my life in her efforts. I held no grudges with her now as I gazed upon her splendor and magnificence for the final time. I rose slowly, not wanting to turn my back on her. As I rose, the gentle breeze conveniently swept a grain of sand into my eye, forcing me to add a single drop of salt to her tears. My temples felt warm and my cheeks flushed slightly at this show of emotion. I reached down and felt the warm liquid of her tears gently caress and wash across my fingertips. I walked back up the rocks from her, feeling a deep sadness within me, a sadness strange to me. I paused momentarily and glanced back once more at God's most beautiful girl and said in a low voice so only she could hear, "Adiós, mar hermosa."

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SKIN DIVER MAGAZINE
P. O. BOX 111
LYNWOOD, CALIF.

MAINLINE TO WATERLINE

(Continued from Page 25)

four men would have been needed: the diver, his tender, and two on the pumps.

Even when he got down there, he would not be a qualified mason, and could not, therefore, be expected to do the work as well as a mason.

After the diver had been brought up, it would be necessary to hold him a few days as a precaution. But, he could not be put to work as a tradesman in the meantime.

On the other hand, scuba diving is not the answer to all underwater problems. It is winter ice that most frequently causes unexpected damage.

A scuba diver cannot stay down in cold water as long as a "hard-hat." He is limited to about 20 minutes in freezing water.

Last winter, a CN "hard-hat" stayed under the ice an unbroken four hours to mend the propeller on a ferry. In Mr. Weir's words: "They've always been around to haul us out of a hole."

The men who graduated from the diving school are all skilled tradesmen in the peak of physical condition. The requirements were established by the regional CN medical department on the basis of Royal Canadian Navy experience.

It is difficult to estimate how many would have applied for one of the six openings in the course had they known they could have passed the medical.

Anyone with abdominal, cranial, skeletal, skin, ear or chest trouble was automatically eliminated, as was anyone with a partial plate.

Solid teeth are needed to hold a mouthpiece. Anyone who went below relying on a partial plate would be taking in life in his hands. A plate could pull out or become lodged in the throat.

Of those who met the medical requirements, six were turned away. "The pity of it was that some of the people with the highest trade skills weren't up to par physically," Mr. Weir says.

The decision to adopt the wet suit was taken on the advice of Instructor Wigmore. The wet suit allows water to flow between the rubber and the body; body heat warms the water to form an additional layer of insulation.

In fact, almost the first thing the divers learned was that getting in and out of a wet suit is a stickier chore than it might at first seem.

Their training day was eight hours long, and divided into four periods, two in the morning and two in the afternoon.

The first week of instruction concentrated on the fundamentals of diving, the second on the maintenance and care of equipment, and the physical and medical aspects of diving.

Towards the end of the third week they began using tools as the stud driving gun, and learned something of the art of boring timber and laying concrete underwater.

In five weeks they had more than a passing acquaintance with concrete and steel plate patching, cofferdamming, "J" bolt patches, and cutting and welding in daylight and night.

On the more romantic side, they learned how to make a black water search and dive to 60 feet.

During the sixth week the divers were trained in the use of explosives. "I don't know what this knowledge would ever be of practical value. However, the navy course was open at the time, and we decided to make use of it," said Mr. Weir.

The divers may never put all they learned during that last week to the test. But if it were ever necessary, they could blow an ice jam — or the propellers off a ship...

The course was intensive and exact. The hand-picked trainees wrote their exams recently; all passed. The railroad now has a group of men at its disposal who can quickly inspect, and in some instances repair, underwater pilings, abutments and piers.

They can provide information about the condition of a ship's hull without drydocking her, and could spot the weakening or erosion of underwater structures.

Among those taking the course from Newfoundland were Robert Chaulk and Victor Murrin.

Representing New Brunswick were Steel Worker George Vautour of Moncton and Mason Donat Godin of Upper Bertrand. Fulton Stone of Truro was the other mason.

Also taking the course was Draughtsman Art Clowes of Moncton. Mr. Clowes was the railways representative at the school, and helped Mr. Wigmore gain a clearer picture of the railway's requirements.

Clowes attended the classes with the tradesmen and taped the lectures. He would probably be used as an instructor if any of the other regions decided to establish a school for scuba divers.

The only professional diver taking the course was CN "hard-hatter" Gus Gallant of Charlottetown. Oddly enough Gallant was also the only one who could not swim.

Previous to the day at the beginning of the course when he leaped from a Borden pier in an unweighted wet suit, he had only done some "paddling."

As a friend later put it: "He went down praying and came up smiling." An unweighted wet suit makes a man well-nigh unsinkable.

Gallant went on to become one of the best students at the diving school.



"How did you know I was a skin diver?"

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TECHNICAL

W. LEE COZAD
ROBERT GIVEN

I - FACTS

If you have a technical or scientific problem or question on oceanography or any related field, send it to Technifacts, c/o Skin Diver Magazine, Box 111, Lynwood, California.

Due to the enormous response of diver's letters for a kit and information regarding Carbon Monoxide (CO) and other gases involved in diving physiology, I am devoting the entire column this month to information on our most important and basic need in diving—AIR.

I was appalled at the number of letters that stated that they were using home made compressors and untested air for diving. Below is listed the safe level consistent with both the U. S. Navy and several other private institutions, including the Scripps Institution of Oceanography:

Breathing air for scuba purposes is defined as air which meets the following specifications:

Minimum oxygen	Atmospheric air
Maximum Carbon Monoxide (for non-decompression dives)	— 0.001%
Maximum carbon monoxide (for non-decompression dives)	— 0.002%
Maximum carbon dioxide	— .030%
Freedom from dust and droplets of oil and water	
Absence of odors and vapors	

As you can see, it only takes 10 parts of C O per million on a decompression dive to cause trouble. Therefore, extreme caution should be used; first to filter the unwanted gases and secondly, that the air be periodically checked.

Since C O has an affinity for hemoglobin of 200 times more than oxygen in the blood stream, it is the most dangerous of the gases and should be checked constantly if you are using a gas compressor where there is a chance of incomplete combustion of carbon with oxygen.

There is presently a small Field Kit distributed by the Divers Scientifica that is extremely accurate. Since the chemicals used in this Kit are very expensive, the Kit retails for \$49.95. However, refills after the first dozen tests are relatively inexpensive. There are also plans for a cheaper Kit that will be distributed later which will cost

around \$36.95 and will have somewhat the same features as the more expensive Kit.

Money orders and return postage should be mailed to Divers Scientifica, 1245 North Michigan Avenue, Pasadena, California.

Periodically an entire air sample should be taken and checked with an infra-red spectrophotometry. This Sample should be enclosed in a 40 liter cartridge. These can be obtained through War Surplus Stores. They were formerly used to hold low pressure oxygen and can be picked up at a reasonable price.

There are presently two laboratories that do this type of work, one is:

The Truesdail Laboratories,
4101 No. Figueroa, Los Angeles,
California.

And the other one is:

Dallas Analytical Laboratories,
2121 So. Central Express Way,
Dallas, Texas.

The cost of the service and information regarding how the sample should be taken and sent should be addressed to these two companies. Naturally, caution should be used to filter the gas and the best types of filters are those that contain a filter of activated charcoal, another with activated alumina, a water and moisture trap, and possibly a crushed quartz trap. These filters should of course be periodically checked and replenished or replaced.

Underwater Film Review Committee Code of Operation

Committee members: Al Tillman, Paul McComack, Norm Robinson, Ross R. Olney, Zale Parry Bivens.

1. The committee will function as a service committee of the Underwater Society of America and will be administered under the supervision of Underwater Film Festival Inc. 2. Committee members will be appointed by the president of Underwater Film Festival and subject to the approval of the president of the Underwater Society of America. 3. The committee will be self supportive through the fees levied against the film producers for services rendered. 4. The committee will elect its own chairman.

RULES OF REVIEW

1. The committee will review any motion picture film which consists in substantial part of underwater sequences, or which deals with skin diving or related subjects,

if such film is intended for public showing through theater presentation, television rental or sale. 2. Films should be 16mm with sound track, or if intended for live narration, should be accompanied by a script. 35mm films will be reviewed only if the applicant arranges for showing the film. 3. Films to be reviewed will be submitted 10 days preceding review dates as follows: First Wednesday each of November, January, March, May, July, September. 4. All Films must be insured by party requesting review (as no person or organization connected with the review committee assumes any responsibility for loss or damage to such film). 5. All films will be accompanied by application-for-review form and a twenty-five dollar service fee (covering film clip leaders, clerical expenses, special projection equipment, and various committee expenses). 6. The committee has the privilege of rejecting any film when the quality of the film is not sufficient to justify committee attention. A \$10 service fee will be retained from the \$25 fee to cover expenses in all such rejection cases. A note specifying the rejection rationale will accompany the \$15 refund. 7. Film accepted for review will be classified as follows:

A. This film is recognized by the Underwater Film Review Committee representing the Underwater Society of America as

a significant and commendable contribution to the field of underwater activity.

B. This film is not recognized by the Underwater Film Review Committee representing the Underwater Society of America for the following reasons: Depicting of unsafe diving practices (unless these are specifically described as dangerous practices, to be avoided). Depicting excessive slaughter of fish, or unnecessary despoiling of diving areas, or similar activities which would tend to bring public disfavor upon skin diving in general. The use of obvious fakery or exaggeration which would tend to give a distorted conception of diving or of the underwater world. Incorrect technical information, overstress of commercial promotion, lack of dignity, critical impressions of organizations, anything lessening the general public's favorable attitude toward skin and scuba diving.

8. Recognized films will be awarded an official letter announcing approval, a film clip recognition leader with the seal of the Underwater Society of America, and public acknowledgment through all available information media. 9. Classification B films may be resubmitted if revisions are made by initiating a new application process.

Films for review should be sent to Ross R. Olney, Skin Diver Magazine, Lynwood, Calif.

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Special Effects Manufacturing Com-
pany, a division of Special Devices, Inc.,
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underwater flare. Immediately available to
military, commercial and consumer mar-
kets, the flare has an extremely wide variety
of application. Flares have been completely
tested and used in underwater photography
(motion picture and still), for underwater
exploration, by demolition teams, as an aid
to underwater hull repair and in many
similar applications.

Producing 150,000 candle power, the
flares are safe, hand operable and will burn
for either one or two minutes depend-
ing on the configuration desired. Each
unit is 11 inches long and 1 1/2 inches in
diameter. The flare is ignited by simply
pressing a waterproof rubber diaphragm
covering an electric switch. When the
switch is actuated, electrical current from
a small battery initiates a pyrotechnic squib
which sequentially ignites the flare com-
position.

The company also produces underwater
communication systems, hydrostatic loca-
tion and recovery aids (SOFAR bombs,
signals and markers), countermine de-
vices and underwater rocket ignition sys-
tems.

Scuba Cowboys Corral Herd of Ducks

Jeff Gash and Dick Stewart, owners and
operators of the newly opened "Aqua Ven-
ture Skin Diving Center" in Franklin
Square, had the opportunity to participate
in one of the strangest rescues of the year
recently.

It involved six tame white ducks that
were chased from their pen by a stray dog.
For five days the ducks, who were slowly
starving, could not be recaptured, since they
kept running into a nearby channel.

Jeff and Dick built a pen out of old storm
fences right on the beach. Then they don-
ned their equipment and swam under and
behind the ducks. By careful actions and a
lot of swimming they finally managed to
herd the ducks up onto the beach and into
the pen.

The ducks are happy back home now,
and their owner has a much higher regard
for skin divers!

**Question: Is it natural for bass and sal-
mon, and as a matter of fact all fish, to
contain worms in their flesh? Mrs. H.
Steinberg, San Francisco, Calif.**

**Answer: Almost all fish have some type
of parasites, usually worm-like, in their
flesh. In some species they are much more
abundant than in others, becoming very
noticeable at certain seasons. In almost all
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if the fish is properly cooked, and one
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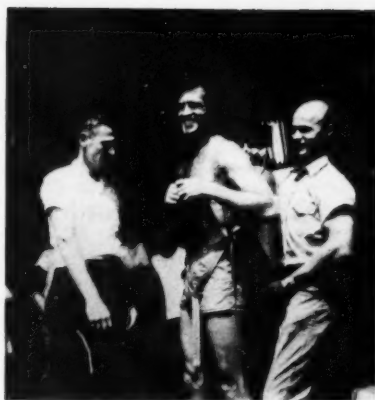
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WYATT EARP CORRALS NORTHEAST LOBSTER

When TV's "Wyatt Earp" was in the Boston area not too long ago, he decided he'd like to find out about these big-clawed Atlantic lobsters.

Like other West Coast divers, Hugh O'Brian had heard about these "bugs" with the claws and the delicate flavor. And he wanted to compare them with the California variety he was used to.

Besides, he had been kept so busy appearing in a show and making personal appearances he wanted to get into the water. For O'Brian is a real "diving nut."

First thing he had to do was find a diving buddy, and like most divers in a strange city he turned to the telephone book for help. When he spotted the familiar name of New England Divers he knew he was set.

If Jim Cahill, the president, wasn't there, Bob Guerette, the treasurer, or Frank Sanger, the company's vice-president and general manager, certainly would be. And, in fact, that was just the way it worked.

Guerette and Sanger took O'Brian aboard the 32-foot Beverly Harbor Police boat for a day of diving off popular Cat Island, a fine lobster fishing area in Salem Bay. O'Brian had his wish and watched the capture of more than a score of "bugs" by the quick-handed Sanger.

In fact, the TV Western star enjoyed his dive so much he was back for more a couple days later.

And this time he came close to more drama than he gets as Marshall Wyatt Earp.

Again O'Brian joined Sanger aboard the police boat and again they headed into Salem Bay for a look around another well-known diving area—Misery Island.

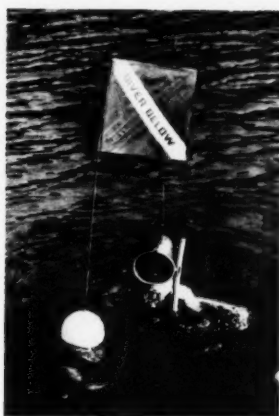
As the boat eased out of Beverly Harbor a radio call on the marine band came in. A woman from neighboring Salem had drowned off Baker's Island, barely a 10 minute run from their position.

The Beverly Harbor Police, having a top diver aboard their boat, radioed that Sanger would be sped to the scene immediately. Coast Guard officials decided it would be faster to airlift him to the scene. If the young woman hadn't drowned, Sanger might effect a rescue.

A Coast Guard helicopter picked him up from the police boat and swung him onto Baker's Island a minute-and-a-half later.

Back on the boat, O'Brian prepared to join the real-life drama. He was suited up and ready to go when word came back from Sanger and Coast Guard officials that the woman's body had been found floating off the island shore.

"He became Hugh O'Brian, diver, when he was out there," said Guerette, "He wasn't Hugh O'Brian, actor, anymore."



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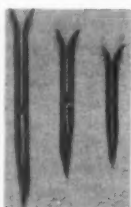
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In boats with a pushbutton starter, a small disc of metal can be cut and placed on a swivel on the dashboard so that it hangs down over the starter button. Engraved on this disc are the words "before starting, ensure divers are well clear." It is obvious the serious accidents this might prevent.

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38 Spartan City
San Jose 12, Calif.

There should always be one person left in the boat to watch for such hazards as a change in surface conditions, fog, predatory fish, etc. An excellent pre-arranged signal to the divers below to call them back to the surface is the starting of the engine... in neutral, of course.

James F. Hagenow
VW 4 Navy 1506
c/o FPO, New York 16, New York

A thermos bottle cork with a 3/8" hole drilled through it and slipped over a spear point saves injuries and holes in auto and boat upholstery.

Jim Baker
302 E. Greenfield Ave.
Pleasantville, New Jersey

When diving from a boat equipped with an outboard motor, raise the motor up to lessen the chance of injury by coming up under the motor skeg.

W. J. Ball
334 Haliburton St.
Nanaimo, BC, Canada

When going diving from a boat, take several plastic bags along. The fish you shoot can then be placed into the bags instead of being dropped on the deck of the boat. This saves cleaning up dried blood and slime later.

Dave Kaufman
55 Cedar Drive
Great Neck, N. Y.

Take an alarm clock with you on your next boat dive. Set the alarm five or ten minutes before your air will run out, then tie the clock into a plastic bag and suspend it a couple of feet beneath the boat. The sound of the alarm can be heard a great distance away from the boat, warning you of your remaining diving time.

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Captain Cousteau Visits Editor Jim Auxier

Photo above shows Skin Diver Magazine Editor Jim Auxier as he presented a portrait to the famed adventurer during a recent visit to the editorial offices. The portrait, a replica of SDM's November cover, is destined to hang in the Oceanographic Museum at Monaco which is directed by Cousteau. In the picture, Auxier is shown comparing the original magazine cover, shot by Los Angeles photographer Chan Bush, with the framed portrait.

Above photo was taken by Associate Editor Connie Johnson.

JUNIOR FIN FANS CLUB NOTICE

Your club is drawing lots of attention wherever Junior divers gather. Members are represented in 40 states and three foreign countries. The youngest member is 15 months and the oldest is 24.

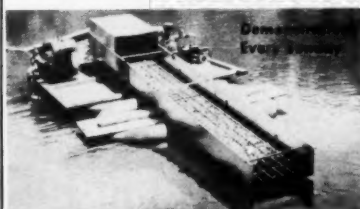
Watch for a special bulletin which will be sent to members soon. It will announce our theme for 1962 and give suggestions on how your group can participate.

In the meantime, we enjoy your many letters, diving stories and photos. Keep them floating our way.

Some members have requested cost of replacing cards or decals (for registered members only). Membership card 25c, decals are 2 for 25c, notebook 25c.

SPECIAL NOTICE: Would the following members please contact magazine. Harry Smith, John DeMarco, Mark Sweetland, Neil Fleming, Jay Brunette.

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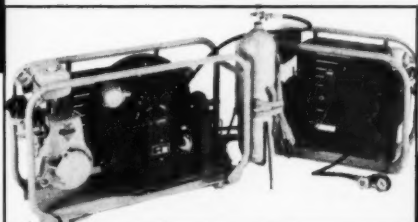
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Regular store hours



(Continued from Page 59)

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SKIN DIVER—December 1961



Thoughts of a Diver

By JIM WARNKE

I see into the depths of the sea. I view the incomprehensible vastness and mystery of the deep. The blueness, the quiet, the solitude and the exquisite works of God are profound, and my life is changed. I return to the world of man realizing my all but invisible iota of existence upon the earth. The sea envelops one and impregnates every fiber with a feeling of humbleness and awe. What am I compared to the billions of Life in God's sea? What am I in relation to the firmament of the depths! We see, we feel and we experience the world of Life underwater and yet we are only sampling a minuscule of what is visible and invisible. Man has not yet within his power the ability to comprehend the vastness and complexity of Life beneath the water's surface. It is as if we are probing into the soil with a needle, examining the grain of sand upon the point and saying, "this is of what the world is made." The existence of a Supreme Deity cannot be denied or relegated to a remote possibility by a diver. An incredible web of circumstance could never create what has been wrought beneath the waves. To try to understand what we see is a mental impossibility for mere man. We are one of a species. The sea holds within itself countless thousands of individual and complete forms of Life that the agnostic has the temerity to speak of as "chance evolution." We cannot deny the existence of God's creations even when viewed in our bumbling beneath the sea. The science of our land-bound world is attempting to explain, probe, dissect and investigate the three quarters of our earth that is covered by water. Up to now we are merely wading in the surf. Let us hope that in the future we will be allowed to swim out a little way from shore. ➤

Pilot Fish and Shark sucker Explained

The pilotfish, *Naucrates ductor*, is a jack that swims with sharks and other large fishes. The relation is a loose and one-sided affair, the pilotfish profiting from the sloppy feeding habits of the others. Pilotfishes are not always in company with other fishes, nor are they the only ones to have this habit.

The shark sucker, *Echeneis naucrates*, is commonly found on many other marine animals besides sharks, including turtles, mullets and parrotfishes. There are other genera and species of remora, several of which attach to sharks. The attachment is a voluntary one and often the remora also swims unattached but close to the "host." Like the pilotfish it picks up scraps of food and injured small fishes. It has been suggested that they also remove parasites from the host's body. ➤ —Sea Secrets

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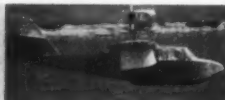
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NEWS CURRENT

(Continued from Page 33)

plane. Four hours later they were back in Nandi, none the worse for the "together in shark waters" episode.

GERMANY—Eight divers walking on the bottom of the North Sea off the German coast think they have cracked the riddle of Atlantis, the fabled Lost Continent believed by some to have vanished into the sea over ten thousand years ago. Atlantis, they say, stretches from a point 28 miles off the coast of western Germany to just off the southern tip of Florida and the man behind the discovery of what he believes is the Lost Continent is Rev. Jurgen Spanuth, a Lutheran minister who has been delving into the riddle of Atlantis for a quarter of a century. Twelve years ago the minister learned from researchers at the University of Chicago of some carved writings from an ancient temple in Greece. The markings were the work of King Rameses the Third. The markings were translated into a riddle giving the geographic location of the castle of Atlantis. Rev. Spanuth claims to have discovered these geographic markers in the North Sea and on the third day of underwater exploration at the site, his divers discovered a wall. The divers traced the wall for almost a half mile. They also discovered carved writings on stone flags and fortifications which are being translated. Rev. Spanuth plans more expeditions to the site.

MILWAUKEE, WISCONSIN — About fifty Chicago area divers were warned by police to stay away from the sunken Prins Willem V. The Willem is being salvaged and police warned the visiting group of divers that they were endangering themselves and the salvage divers working on the Willem and would be flirting with arrest for disorderly conduct if they refused to leave the operations site.

TALLAHASSEE, FLORIDA — Alligator hunting is no longer permitted in Florida, except by special permit for scientific, education or propagation purposes.

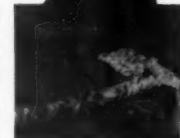
NEWPORT, RHODE ISLAND — Skin divers under the supervision of John J. McAniff brought up samples of seaweed for the study on seaweed inaugurated by the Newport Conservation Commission. The study was started to learn of methods to destroy the seaweed, which is a light red algae, or to gradually replace it with another kind for commercial uses.

MIAMI, FLORIDA—Skin divers discovered strange sea growth covered packets at Camp Recovery on Elliott Key that turned out to be religious tracts which apparently were at the end of a long journey. Over a period of three days, five of the packets were discovered by three divers vacationing at the fun camp operated by Alcoholics Anonymous. One of the packets contained a check drawn on the account of "the bank of eternal life" and made payable to the order of "whosoever believeth." It was printed in Nairobi, Kenya, East Africa, where the divers feel sure the packets originated. A large African canoe washed ashore at the camp last year after hurricane Donna.

BANGOR, MAINE — John E. Cayford, president of International Undersea Services and author of "Underwater Work," has been selected by the National Safety Council to write a manual on undersea safety. Cayford will write the manual on diving in construction operations.

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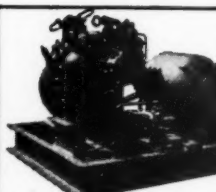
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MIAMI, FLORIDA—To most fishermen the jewfish is a sluggish, docile, rather difficult to bait giant of the sea who rather reluctantly allows himself to be hoisted from his lair with a disposition somewhat less than that of a tiger. Paul Dammann, a member of the U. S. team to the world's championships in past years, has a different idea of this sluggish giant bass. Dammann relates he spotted this big jewfish and started toward him as he has done many times before. However, this particular fish was different than those he'd meet in the past because all of a sudden the jewfish started toward Dammann like an express train. "He chased me all over the water and I kept trying to get a shot at him with my speargun," Dammann said. "He was coming in full bore, mouth open, ready for business." Dammann finally got the fish, but he offers a warning to any fisherman tackling this supposedly docile fish, watch out.

BAY CITY, MICHIGAN—Four members of the city fire department and police skin diving crew were to complete an underwater inspection of the concrete center swing pier of an aging bridge. Preliminary inspection showed the underwater section to be solid. The divers, Richard Davis, Gerald Reed, Russell Beffrey and Donald Besaw, will complete inspection of the first bridge and then make similar surveys on other city bridges and underwater pilings.

READING, PENNSYLVANIA—Members of the Reading Scuba Rescue Team, Pete Kauffman and Ray Devera, while searching the bottom of the Schuylkill River for guns, discovered a safe that had been looted of its contents. The guns were not found. The same club was successful in the recovery of a 1955 automobile from the depths of Antietam Lake.

GAINESVILLE, FLORIDA—Dr. John Goggin, professor of an advanced course in the archaeological study of man's past at the University of Florida, takes his students on field trips into the depths of Florida springs. Skin diving is one of the techniques he is teaching these future archaeologists to enable them to recover evidence of old civilizations which now lie underwater. It is believed to be the only such university course in the nation.

An article in the Russian Pravda indicates that in some important respects American oceanographers are better equipped than Soviet oceanographers. The Soviet scientists are citing the United States' work in this field as an argument for getting more generous financial support from the Soviet government. The Pravda article indicated that Soviet oceanographers are most concerned about the fact that there is still no work under way to build a Soviet bathyscaph. It also revealed that underwater photography and television are backward, left to private initiative. Equipment needed for underwater exploration is said to be scarce since its manufacture is left to amateurs rather than being properly organized. As a result of the poor quality of this equipment, people using lunas are said to have suffered "unhappy accidents."

BREMERTON, WASHINGTON—A seven-year-old boy owes his life to diver Robert Williams in an amazing coincidence. Williams was working underwater on a cruiser when he saw the youngster sinking past him to the bottom. Williams grabbed the lad and tossed him aboard the boat. The diver told police later that apparently no one above water saw the boy fall in and he described the incident as shocking, "it's a funny feeling to discover someone drowning along side of you."

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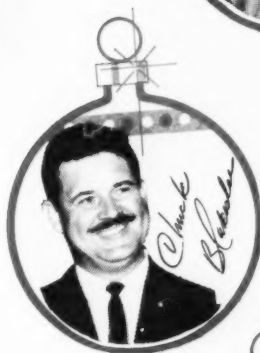
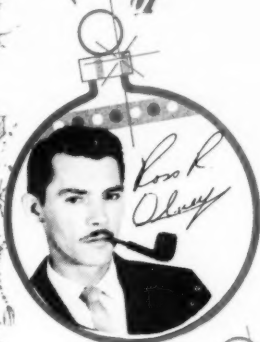
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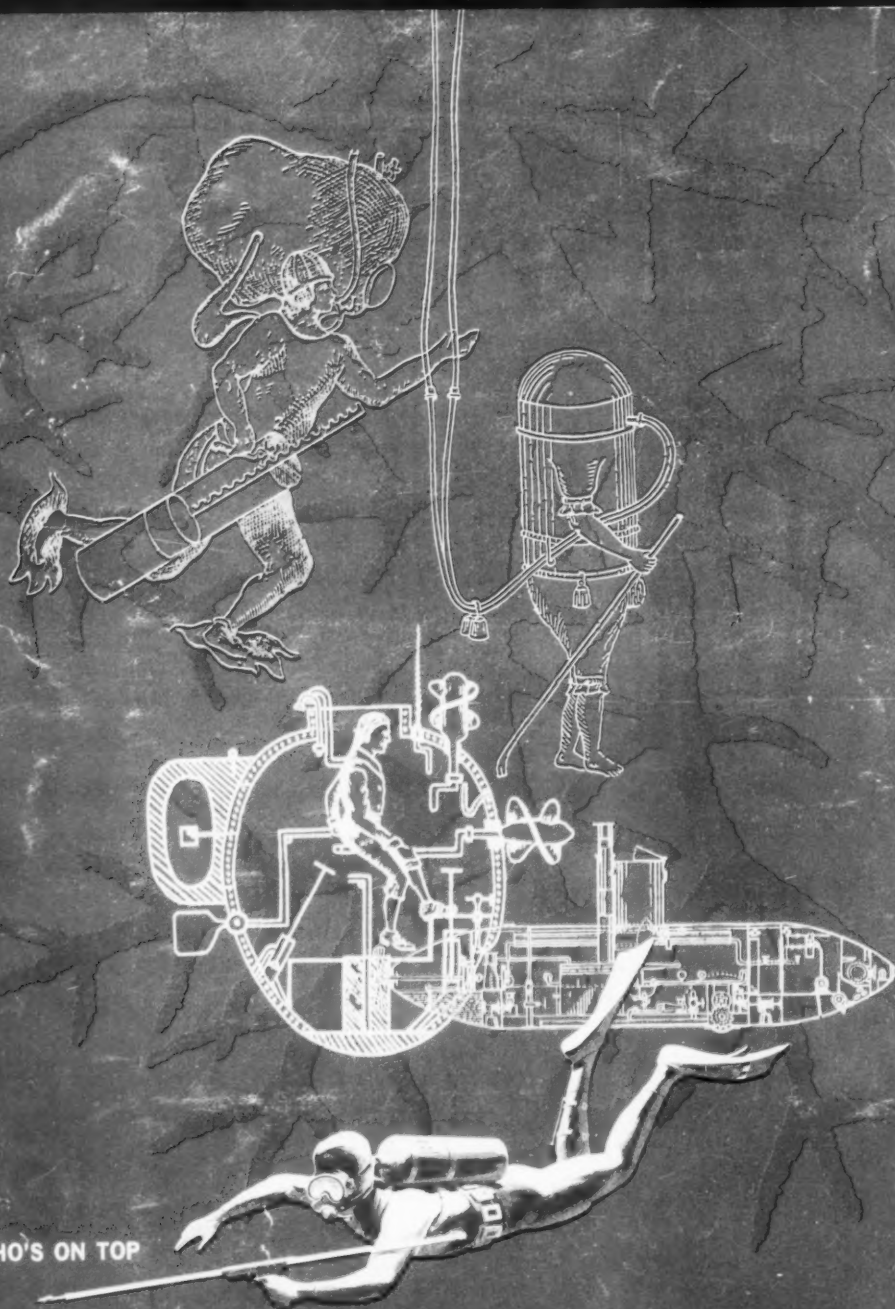


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